

American Fruit Grower

WESTERN EDITION

APRIL • 1959

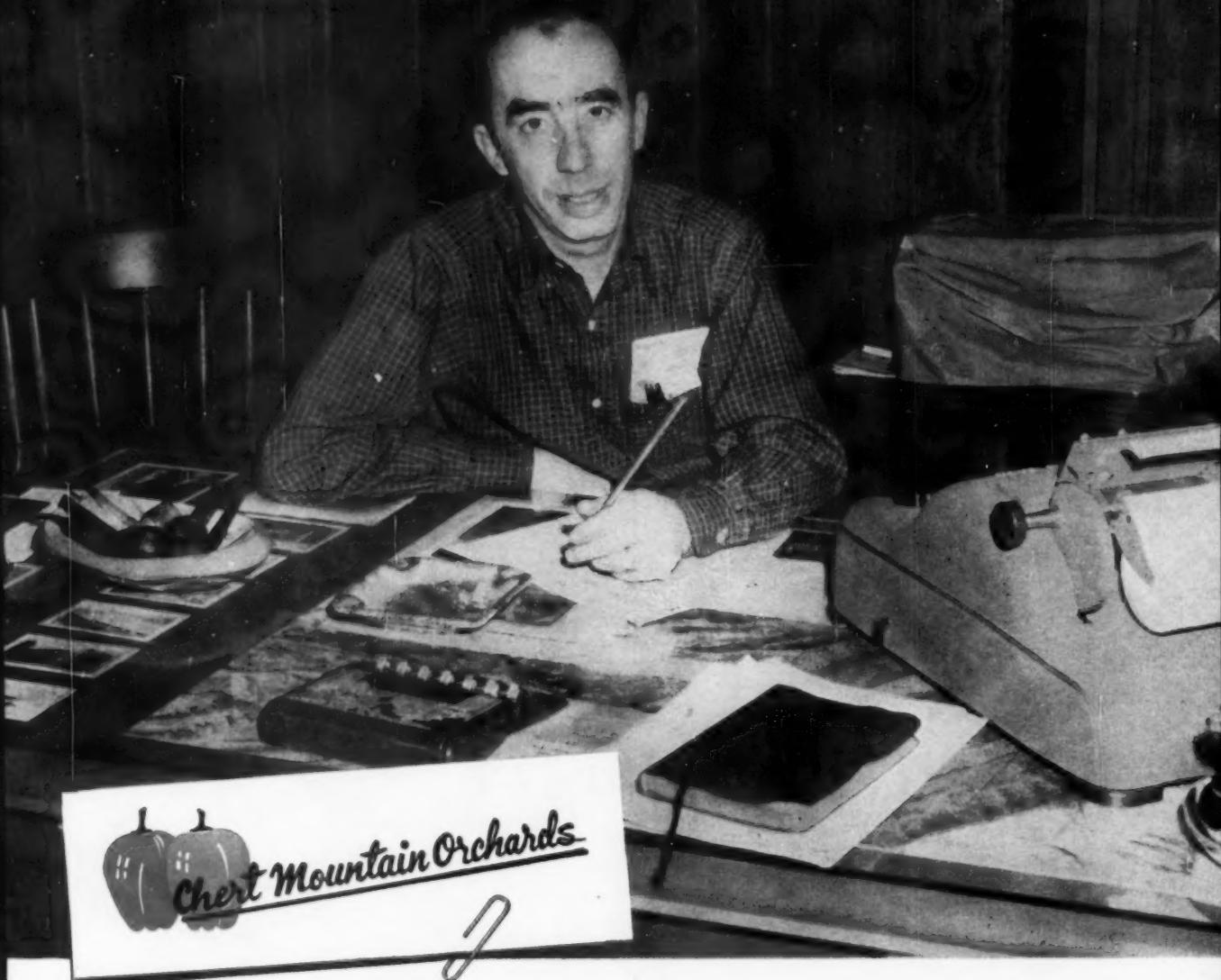


Summer Planting of
Strawberries

How to Cut Grape
Fertilizer Costs

Their New Love Is
Fruit Growing

How Some Growers Spray Thin Their Apples



"Captan has proved best for me"

says: Ed A. Leatherman, Jr., third generation owner of
Chert Mountain Orchards, Purgitsville, W. Va.

Mr. Leatherman continues: "I have been using Stauffer Captan for five years. I like it for its compatibility with other materials. This is particularly advantageous in my Captan-sulfur combination program. The combination has repeatedly given me excellent scab control, and at the same time, the resulting smooth finish and good color has been very gratifying."

More and more successful growers like Mr. Leatherman are finding that Stauffer Captan 50-W reduces scab to a minor

problem when used in a full-season schedule. Control gets easier and easier because you start with less and less over-wintering scab.

If mildew is a problem, a half dosage each of Captan and sulfur makes an ideal pre-bloom spray. Use Mag. "70" sulfur paste or a microfine dry wettable sulfur. After bloom, we caution against the use of sulfur on sensitive varieties or when the temperature is likely to exceed 90° F.

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Use it to control major diseases on apples, peaches, cherries and strawberries.

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Cropmaster announced
by John BEAN



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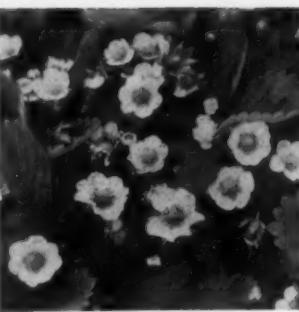
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American Fruit Grower

Cover photograph by Grant Heilman shows Robinson strawberries in blossom on farm of Stanley Stephan, Lititz, Pa.

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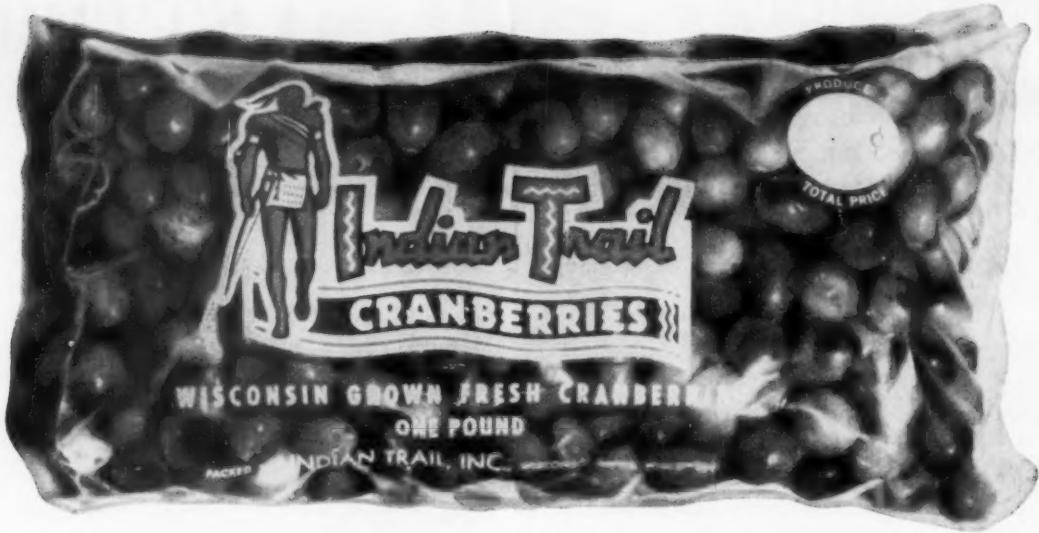
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Ben Pannkuk, Indian Trail, Inc., Wisconsin Rapids, Wis., cut his packaging costs on cranberries 20% when he switched to VISQUEEN film.

Mr. Pannkuk says "Breakage ran to 10% when we used our previous film. That meant buying that much overage. We switched to VISQUEEN film. Breakage went down to almost nothing. Now we buy only as many bags as the pack calls for. We sure cut costs.

"I don't think we'd do as well with just any poly, though. Tried others. This VISQUEEN film's a *lot* stronger. More uniform. The *quality's* there. That's what cut our end costs way down.

"Retailers are a lot happier with these bags of VISQUEEN film, too. Clarity? Increases product visibility, I'd say.

"And importantly, there are no longer any dealers' claims for packages breaking or falling apart in the produce racks. Housewives are pleased too. They can put the VISQUEEN film package right in their freezer. That helps sales."

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packaging
costs
20% with
VISQUEEN
TRADE MARK
film*

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All VISQUEEN films are specially formulated and manufactured to meet requirements of specific packaging jobs. You get the right film for your needs. Because of their superior qualities of uniform thickness and body, VISQUEEN films have the margin of strength that allows purchase of the most economical gauges.



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the time-tested and reliable fungicide — still most effective for killing the apple scab fungus.

ONLY Phix HAS ALL THESE ADVANTAGES:

- Gives you reliable, spore-killing, kick-back fungicidal action.
- A dry organic mercury fungicide with unlimited shelf life.
- Fortifies other fungicides which do not kill scab fungus.
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- Cannot freeze or form a sludge — always reliable.
- Mild action, greatest margin of safety, and widest range of compatibility.
- Protects your trees and gives you the most for your money.
- Has no equal for after-rain eradication of infection.

Order PHIX from your dealer, and insist on getting it, not a substitute. If your dealer does not have it, write, wire or phone your order to us with your supplier's name. DON'T DELAY — ORDER PHIX TODAY!

For free leaflet, write Dept. AG-4, and send along your dealer's name and address.



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Many growers have witnessed enormous crop losses from leaf blight and stem-end fruit rot diseases on susceptible varieties.

An early spray with PHIX kills the disease-causing organisms and with the proper follow-up program eliminates these losses. This early spray with PHIX is the most important and most effective single control measure available. Recommended by experiment station fruit specialists and leading commercial strawberry growers. So, DON'T DELAY—ORDER PHIX TODAY!

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A special formulation of NPA which has been described after three years of test work as . . . "the best and most consistent chemical thinner for peaches so far tested." Now available to commercial peach growers for trial use.

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Order your supplies early, so you can write, wire or phone your order to us if your dealer does not have these materials.

*PHIX and NIP-A-THIN registered Trade Marks of Chemley Products Company.

CHEMLEY PRODUCTS COMPANY
5744 N. Western Avenue

Chicago 45, Illinois

LETTERS TO THE EDITOR

Stilts for Pruning

Dear Editor:

Dr. Tukey's item in *Fruit Talk* (AMERICAN FRUIT GROWER, Dec. 1958) about the use of stilts in pruning fruit trees in England reminded me that I had observed this kind of operation in the peach district of Colorado's western slope in 1950.

"It saves time and a lot of work," is the way Colorado growers reasoned. No ladders to move about on rough ground, and no need of stretching arms and legs to reach into the tree tops with heavy lopping shears. The grower stands at the right height to see just what he is doing, and to do it easily. Most of the pruning can be done with hand shears. The practice seemed to me to result in a type of tree peculiar to the area—flat-topped with much of the bearing area high.



The stilts are brought out again in early summer to help in the job of fruit thinning.

Elevating the worker from 3 to 5 feet above the ground, the Colorado stilts are of a type that fasten securely around the ankle and above the knee. This permits working freely with no need of using the hands to support the stilts.

Moscow, Idaho

Leif Verner

Rodent Control

Dear Editor:

Information on the control of orchard mice is one of the activities of this office and others in the region. Perhaps you would like to refer your readers to the nearest office that can give them help with orchard rodent problems.

The following U. S. Fish and Wildlife Service offices stand ready to help your readers: For the states of Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, and Missouri, contact Agricultural Experiment Station, Purdue University, Lafayette, Ind.; for the state of Ohio and closely adjoining areas, 210 New P. O. Bldg., Columbus 15, Ohio; for New England and Middle Atlantic states, Branch of Predator and Rodent Control, 59 Temple Place, Boston, Mass.; and for the Southeastern states, Branch of Predator & Rodent Control, Peachtree-Seventh Bldg., Atlanta 23, Ga. Lafayette, Ind.

John R. Beck

U. S. Fish & Wildlife Service

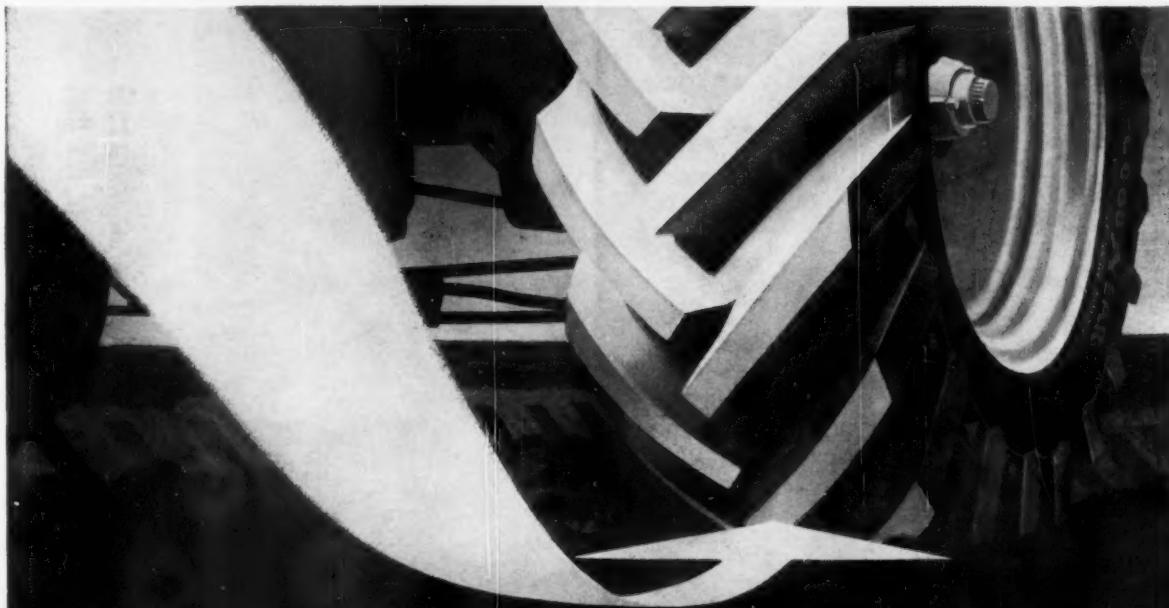
AMERICAN FRUIT GROWER



Today's High-Powered Tractors Demand It!

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with "TORQUE CONTROL"



Delivers Traction-Action at the Point of Power

Modern tractor power is on the up-surge. And so, too, is "torque"—the work-producing extra twist delivered to the drive wheels. To keep pace with these developments, you need tires of special design and unusual stamina.

That's just what you get with TRACTION SURE-GRIP—the tractor tire engineered especially for the stepped-up torque of today's farm machinery. It turns the *twist* of torque into *bonus* traction-action on the newest, most powerful tractors.

FARM TIRES BY

GOOD YEAR

MORE FARMERS PREFER GOODYEAR TRACTOR TIRES THAN ANY OTHER KIND!

And 3-T, too

TRACTION SURE-GRIP is sinewed by Goodyear's exclusive 3-T Cord, triple-tempered to be triple-tough and strong. It resists buckling, buckle breaks, cracking and rim slippage—withstanding the furious pounding of rocks and snags and the extra strains at lug bases.

Along with Goodyear's famous tread design, *ruler-straight* lugs and "*Wedge-In*" action—you have a tire that capitalizes on all the power of your high-torque tractor.

See the TRACTION SURE-GRIP with "Torque Control" on the very latest farm tractors—or call your nearest Goodyear dealer. Goodyear, Farm Tire Dept., Akron 16, Ohio.

Tops in front tire performance

NEW SUPER RIB

3 ribs for
better steering,
better flotation,
better wear!





Phosphate!
Too late!

The tree on the left was treated with a phosphate for pear psylla. Malathion is the phosphate that kills psylla in all stages. Also aphids, mites and DDT-resistant codling moth. It's that powerful. Yet, malathion can be handled safely without respirator or protective clothing.

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American Cyanamid Company, Agricultural Division, Dept. AF-4, New York 20, N.Y.

American Fruit Grower

• Fruit for Health •

Are You Using A MONEY MAKING SPRAY?

**Michigan growers chemical thin their apples
to get the size they want. Here's how some
of them do the job**

By ARTHUR E. MITCHELL
Michigan State University, East Lansing

CHEMICAL thinning of apples has become an annual practice in almost every orchard in Michigan, and rightly so. The smallest favorable size for apples packed in polyethylene bags is $2\frac{1}{4}$ inches in diameter. And processors are not interested in apples smaller than $2\frac{1}{2}$ inches in diameter and prefer apples $2\frac{3}{4}$ to 3 inches. The one exception is Jonathan when used for spiced apple slices.

Chemical thinning also gives the grower the assurance of annual bearing of the trees. This has been accomplished even for those trees notorious for biennial bearing tendencies, such as Northern Spy, Delicious, Wealthy, and Hubbardston.

Chemical thinning is accomplished in the Midwest by using either naphthaleneacetic acid compounds (NAA) or Amid-Thin. The DN compounds so common in the Northwest are not accepted by the Michigan apple grower. Perhaps the continued higher humidity in the state accounts for the excessive injury

from the use of DN compounds.

There is not a single set way to use thinning compounds. Each grower has to work out his own procedure based on his specific orchard conditions. Actual methods used by different Michigan growers to accomplish thinning will illustrate the many ways to use the same compounds with equally good results.

Marion Cargo, of Hartford, makes NAA applications five to seven days after petal fall with an air-blast sprayer. He uses a concentration of 20 parts per million on McIntosh, Delicious, Jonathan, and Steele's Red, and adjusts the discharge of his sprayer to apply one-third as much as he would using dilute spraying. Furthermore, he reduces the operating pressure of his sprayer to 65 pounds per square inch and drives at 4 miles an hour.

When making pesticide applications, Cargo uses 3X concentrations, applies one-third the gallonage used in dilute spraying, and travels at $3\frac{1}{4}$ miles per hour. To thin Golden Delicious, he uses NAA concentrated at 60 ppm, applies one-third the amount per acre as required in dilute



Delicious show size at time of thinning application by the small apples that did not continue to grow. These will drop off. Two larger apples will continue to enlarge and develop.

spraying, and travels at $3\frac{1}{4}$ miles per hour.

By contrast, John Coffee in the Peach Ridge area sprays all varieties with Amid-Thin at 60 ppm at the time of petal fall. He applies the thinning spray in the same manner as the pesticides.

The Barden Brothers, of South Haven, have tried both NAA and Amid-Thin. They feel their results are slightly more favorable with

(Continued on page 51)

Their New Love Is FRUIT GROWING



Young, well-developed trees are coming into their prime bearing years at Thew orchards.

IT takes a lot of thought, planning, and determination to switch from dairy farming in a traditional dairy area to fruit production. But that's just what the father-son team of John G. Thew, Sr. and Jr. did.

Less than 10 years ago, the Thews were operating a dairy farm of some 100 milking cows in Orange County, New York State. Also included on their 400 acres were some orchards planted by John, Sr.

Today the Thews point with pride to the acres of orchards, mostly planted to apple trees, which have modernized their farm activity in line with the agribusiness concept.

"Fruit growers are optimists," John Sr. says.

"It takes several years for a young tree to begin bearing fruit. After that it takes several more years before the tree is in full production. You've got to have faith in the future to begin planting orchards."

For more than 200 years, members of their family have been farming in

The Thews, dairy farmers by tradition, have switched to fruit growing—in order to 'enjoy farming more'

Orange County. From general farming in the early days, changing times brought more specialization to the Orange County area, where their farm is located between Goshen and the town of Campbell Hall.

For many farmers, and for the Thews until several years ago, specialization meant emphasis on dairy farming. Reviewing their progress, the Thews began to think about necessary changes in their operation which would keep their farm moving ahead in the future.

What made them decide to take this big step?

"An important reason was the need to diversify our farming activities and broaden our own markets," John Sr. points out.

"We believed that new marketing methods give a fruit grower a greater opportunity for growth, and the profits that go with production of quality products. With our fruit production, we have developed a busy roadside marketing business.

"For another thing, trying to run both a dairy and several smaller orchards meant conflicts in work schedules.

"I guess a big factor was our desire to enjoy farming more. With a dairy farm, you're pretty well tied to the farm seven days a week throughout the year."

Visiting the Thew farm, you can see diversification in fruit production all around. Although a big part of their land is planted to apples, there also are peaches, pears, strawberries, cantaloupes, melons—even several acres of sweet corn and tomatoes.

In planning their apple orchards, varieties were selected to give an early-to-late harvest season. Presently, their producing orchards include 25 acres of McIntosh, 25 acres of Cortland, 12 acres of Red Delicious, with a few acres of Golden Delicious, 10 acres of Rome Beauty, and 15 acres of other varieties.

"Our goal is 200 acres of fruit trees," the senior member of the team says. "We've been planting new blocks of Red and Golden Delicious, Red Rome Beauties, early and late

McIntosh, Lodi, and other popular apples."

"Three years ago we left the dairy business completely," John Jr. says.

"Since that time we've planted about 4500 young trees. Many of these are grafted on a Malling VII rootstock and will be semi-dwarf trees, growing to about two-thirds the height of standard rootstock trees.

"Individual semi-dwarf trees cost more, and because you can plant twice as many to the acre, the total cost is a good bit higher," the young pomologist admits.

"However, we believe that these trees will produce more quality fruit per acre. For one thing, they have more surface to the acre, which helps them produce better fruit. We expect it will be easier to spray and care for them than the larger trees, and there will be less heavy pruning required, which saves labor."

Included in the new plantings of about 3000 semi-dwarf trees are Red and Golden Delicious and McIntosh.

Other large blocks of Gallia Beauty, a naturally lower tree on standard rootstock, also have been put in.

Well-tilled clay loam and clay soil, formerly devoted to alfalfa, corn, and pasture, have helped young trees get off to a good start. "Alfalfa needs good soil to do well," John Jr. notes.

In lower portions of their land and in wet spots, the Thews constructed tile drainage systems to assure adequately drained soil for the trees.

With orchards located on widely sloping fields with good drainage and frost protection, the Thews have found that air keeps moving and no cold pockets settle in one place. Many other fruit growers in their area have lost crops when heavy frosts have hit the orchards.

"Throughout the year, we aim to produce the highest quality possible in apples, and in all of our crops. We know that these top-quality products bring us premium prices—in our roadside market, in other retail trade, and in wholesale marketing," John Sr. says.

"To make sure we get this quality, insect and disease control gets top



With their fruit production, the Thews have developed a busy roadside marketing business. John Thew, Sr. is shown with smaller basket pack of apples which is popular with customers.

priority in our operation," John Jr. points out. "We use glyodin for apple scab control.

"In most years, we also have suppressed mites completely with glyodin. In years when mites have been a very serious problem, we have used this fungicide in combination with ovex, which kills the mite eggs.

"This year, with a lot of wet weather, spraying could have been a problem. However, we found that the excellent spreader-sticker properties of glyodin increase the effectiveness of miticides and insecticides used in combination spray mixtures, giving us longer and better protection."

"Even through a 72-hour rain this past season, glyodin held fine and gave good scab control."

The Thews use a 500-gallon John Bean Speed sprayer and put on a 4x concentrate spray. Setting a 2-miles-per-hour speed gives full coverage of the trees, they report. One tank filling is enough to cover 5 acres, with the standard stock trees planted 40 to an acre and semi-dwarf trees about double that number.

As strawberry growers, the Thews earned early recognition for their consistently high yields. They grow primarily Sparkle and Catskill, using a hill culture system. From their 1-acre strawberry plot this year they harvested 15,000 quarts. They also have done well with high-yielding Latham red raspberries.

About 15% of their apples, plus all of their peaches, melons, and small fruits as well as sweet corn and lots of cider, go into their retail trade.

"We're planning for sales at the retail level throughout the year," John Jr. points out. "To achieve this goal, we're approaching it from two sides:

"First, we're diversifying our varieties of fruit so that the apples and

other fruit ripen over a longer period from early summer to late fall.

"Secondly, we've built refrigerated storage facilities. Right now we have cold storage facilities for about 25,000 bushels of apples."

Apple handling is well mechanized

Efficient mechanized handling from orchard to market is part of Thew agri-business outlook.



John Thew, Jr. (center) keeps close check on the cider bottling operation.

in the Thew operation. From the field, apples are quickly moved on pallets into precooling, and then to cold storage. They are packed out and graded as needed for shipments, retail sales, or special orders.

During the slower season, a crew of six employees is sufficient at present. When harvest and packing time arrives, about 35 employees man the picking and packing operation.

In the retail store, all sizes of packages are sold, from bushels to small packs. There is a good market for the smaller sizes of apples, the

Thews report. Customers with younger children seem to prefer these smaller apples.

An important part of the Thew agribusiness is cider production. Their own cider plant is located in the building which also houses the apple packing and grading line and their roadside market.*

When they began making cider in 1944, the Thews used their own apples and others bought locally for cider making. But that part of the



business grew more quickly.

"Now at cider-bottling time we buy about 3000 bushels of apples per week for the cider operation," the senior Thew estimates.

"When we first started with cider, we sold locally in Orange County. Now, we've developed other markets and are selling truckloads to several New York metropolitan buyers." They sold some 50,000 gallons in 1957. Last year, they expected to sell between 70,000 and 100,000 gallons, bottled in gallons and half-gallon sizes.

THE END.

Another POT OF GOLD for FLORIDA?

Frozen concentrate process zoomed Florida's orange production, now bids fair to revive the lemon industry

By L. C. KNORR

Citrus Experiment Station, Lake Alfred, Fla.

FLORIDA raises more citrus than any other area in the world. According to a count recently completed, there are now 43 million citrus trees in the state. Despite the enormity of this citriculture, the lemon that the Florida housewife buys comes from California. In 1957, her purchases of California lemons amounted to 160,000 boxes.

Does this seeming paradox suggest that Florida cannot grow lemons? Such an implication couldn't be further from the truth. Before the turn of the century, Florida not only raised enough lemons for its own needs but also shipped 140,000 boxes a season, nearly 5% of the citrus then moving out of the state.

Florida's citrus industry was once located in the northeastern part of the state, but the great freeze of 1894-95 sent it scurrying southward to the warmer parts of Florida where it flourishes today. Growers of oranges, grapefruit, and mandarins relocated their groves in the central part of the Florida peninsula. But growers of lemons gave up; for them the great freeze was the final blow.

Lemons are more tropical in their temperature requirements than are oranges, grapefruits, and mandarins, but if cold had been the limiting factor, lemon growers could have moved south and prospered along with the rest of the citrus industry. Actually, the freeze did little more than squeeze the trigger of a gun that had been loaded and aimed for some time be-

fore the freeze: Florida's lemon industry was being threatened by competition from California.

It is a well-known fact among lemon growers and shippers that the best lemons come from areas of the world that are hot and dry, for only in such areas is there freedom from the fruit-blemishing scab fungus and sufficient absence of humidity to suppress fungi that would later cause trouble when fruit is put into the curing rooms.

Toward the end of the 19th century, California had perfected a curing process that made the lemon what it

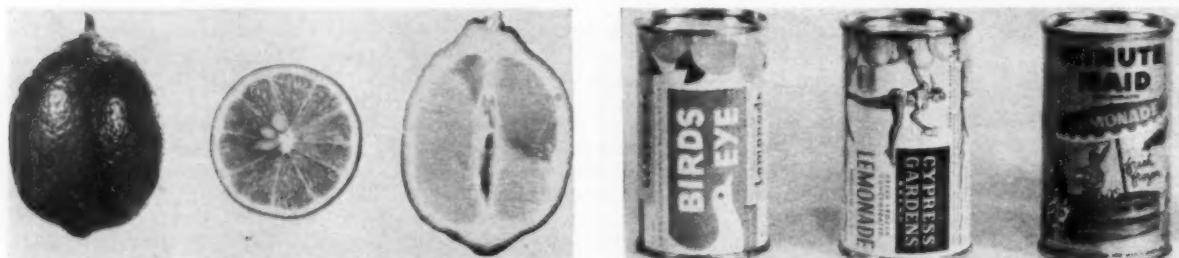
is today: a small, bright, yellow fruit that looks fresh even after a 3000-mile trip to market. In contrast, lemons from Florida look unattractive, and their lack of hardiness renders them subject to diseases in transit.

The frozen concentrate process bids fair to revive Florida's lemon industry. Lemonade concentrate has become big business; last year over 11 million gallons of lemon juice were converted into the product. By far the largest part of the production comes from California.

But Florida growers and processors
(Continued on page 54)



Dickman Farms, at Ruskin, Fla., have set a goal of 400,000 boxes of lemons by 1962, from their 400 acres of the Meyer variety, a hybrid between lemon and sweet orange. They rooted their lemons in vermiculite (Zonolite Company, Chicago 3, Ill.), a mineral soil conditioner and growing medium, and planted directly in the field. Lyle C. Dickman, general manager of Dickman Farms, is shown above at right, inspecting yield.



Florida's Lemon Project includes research which ranges from the question of the best lemon for planting to preparation of the best lemonade.

Tax Benefits Changed by NEW RULES ON DEPRECIATION

New policy insists that salvage value be
set as basis for figuring depreciation

By MARK S. GROVE
Public Accountant, Martinsburg, W. Va.

DEPRICIATION is no longer as simple to compute, nor does it provide as much of a deduction over the years as it formerly did.

Congress has passed two laws in the last five years which have allowed taxpayers to obtain a greater immediate tax benefit on certain depreciable assets. But, offsetting these benefits is the new Internal Revenue policy of insisting on limiting the amount of depreciation allowed on an asset over the years of its useful life to its cost less "salvage value."

The Internal Revenue Regulations had contained for many years the unenforced provision that no asset shall be depreciated below its salvage value, defined as the amount which is estimated will be realized upon the sale or other disposition of an asset when it is no longer useful in the taxpayer's trade or business. The dollar amount determination must be made at the time of acquisition and cannot be changed after it is once established.

When the declining balance method of depreciation is used, the annual deduction is taken in the normal manner except that the deductions must stop when the accumulated depreciation is equal to the original cost less salvage value.

In every other method, salvage value must first be deducted from cost. The remaining amount is then subject to the depreciation calculation.

Agents are applying this rule in their audits which usually cover returns for the three preceding years. When they find that no provision has been made for salvage value, an adjustment to taxable income is almost inevitable.

To illustrate: Suppose that you purchased grader equipment in 1949 at a cost of \$12,000 and that you have been claiming a depreciation deduction of \$1200 per year over its 10-year life. An agent, having decided

that the salvage value at the end of 10 years was \$2500 would make the following adjustments: The original cost would be reduced by salvage value to determine the "amount subject to depreciation," \$9500. He would then calculate how much depreciation had been allowed for the period 1949 to the beginning of 1956, the earliest of the three years included in his audit.

The accumulated depreciation would be subtracted from the amount subject to depreciation to arrive at an amount of \$1100 (\$9500 less \$8400). This remaining depreciation would be allowed as a deduction over the years 1956 through 1958 at the rate of \$360 per year. Your deduction of \$1200 for each of those years would be disallowed to the extent of \$834 for each year of the audit period. Your income tax bracket would determine the amount of the resulting tax deficiency.

Depreciation must stop when the end of the useful life is reached. The undepreciated salvage value cannot be recovered through depreciation. When the asset is finally sold or junked, gain or loss is recognized to the extent of the difference between salvage value and money or property, if any, received in exchange.

Loss on the sale or a complete loss in the case of a junked asset is fully deductible as a business expense. Gains from the sale of such property are only 50% taxable as long-term capital gains under the provisions of Internal Revenue Code Section 1231.

The two legislative tax benefits are the allowance of the 200% rate where the declining balance method is adopted, and the additional first year deduction.

The declining balance method can be used only on an asset that is new and unused. It applies to both real and personal property. Its computation in the first year consists of dividing the cost by the number of years of useful life. The result is then multiplied by a factor not to exceed 200%, selected by the taxpayer. In the second and succeeding years the original cost less depreciation allowed in prior years is divided by the number of years of useful life. This result is multiplied by the factor which taxpayer selected in the first year. As previously stated, depreciation must cease when the asset has been depreciated down to its salvage value.

In 1958 Congress passed a new tax law that included the provision that in the year of acquisition an additional depreciation deduction of 20% of the cost may be taken on certain depreciable property. The law applies to taxable years ending after June 30, 1958, and is available to all taxpayers except trusts. Also, the asset must have a remaining useful life of at least six years and to qualify must have been acquired after December 31, 1957, from an unrelated person as defined in the Code.

The deduction is limited to 20% of cost to the extent of \$10,000, or in the case of a joint return, \$20,000. Either new or used property is eligible for the benefit. A full deduction is allowed regardless of the period of time the property was held during the taxable year. If the taxpayer traded in an asset in the acquisition of the new one, the adjusted basis of the old asset is excluded in the computation of the additional first year allowance. A statement containing details of the purchase should accompany the income tax return when this special deduction is taken.

To illustrate: Assume that an unmarried taxpayer purchases outright (with no trade-in) on January 1, 1958, a highway tractor for \$13,000. Its useful life is determined to be six years when it will have a salvage value of \$1000. The additional allowance deductible on taxpayer's 1958 return will be \$2000 (20% of cost, limited to \$10,000).

The taxpayer who takes advantage
(Continued on page 54)

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SEVIN is big news for fruit growers! A product of years of UNION CARBIDE research, acclaimed as a major achievement in insect control, SEVIN offers you a superior combination of advantages. SEVIN is deadly to major fruit insects (including resistant insects) yet SEVIN is easy to use with safety. Tests indicate it's less toxic than DDT.

SEVIN is a new and distinctively different carbamate insecticide, unlike the phosphates, chlorinated hydrocarbons, arsenicals, and other commonly-used insect killers. With SEVIN, you can produce more clean fruit with simple, easy, one-product control of many important insect pests.

In tests conducted by hundreds of leading growers and many leading experiment stations, SEVIN wettable powder has produced outstanding results. It is a highly-effective insecticide with long-lasting residual effect. SEVIN can be used very close to harvest on most crops. Fruit finish is excellent with SEVIN.

SEVIN insecticide is compatible with miticides, fungicides and other commonly-used spray materials except lime and other highly alkaline materials. SEVIN is the different, new, easy-to-use insecticide everybody has been waiting for. Don't let bugs bother you . . . SOCK 'EM with SEVIN!

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FRUIT TREE LEAF ROLLER
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PERIODICAL CICADA
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Insect Control without a residue problem makes **SEVIN** the preferred new insecticide for peaches. Use **SEVIN** from petal fall until harvest to control—

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Get **SEVIN** Now!

SEVIN is the most important new development in insecticides in many years. It will pay you to get all the facts about the many advantages of **SEVIN** when you plan your insect control program for 1959. Ask the man who supplies you with your sprays and dusts. **SEVIN** has everything you have always wanted in an insecticide. **SEVIN** provides control of major fruit insect pests, including many resistant to other pesticides. **SEVIN** provides a high degree of safety in handling and use, even close to harvest. **SEVIN** has long-lasting residual effect and is compatible with most other spray materials except lime and alkalis. **SEVIN** is easy on foliage and fruit, so you get fine finish. Don't worry about insects . . . SOCK 'EM with **SEVIN**!

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SPRAY GUIDE

FOR CONTROLLING APPLE POWDERY MILDEW

WHAT TO LOOK FOR:	WHAT TO DO:
 <i>Infected dormant terminal.</i>	Watch for infected terminals . . . a sure sign that powdery mildew has overwintered in buds and on twigs, and will become active when buds break. Start application of KARATHANE in the pre-pink period.
 <i>Mildewed blossom at advanced pink stage.</i>	Mildewed blossoms at advanced pink stage mean trouble ahead. Start or continue KARATHANE applications at regular intervals.
 <i>Mildew-stunted blossom at full bloom.</i>	KARATHANE WD is harmless to blossoms, as well as buds, fruit and foliage when used as directed. Apply KARATHANE WD every 7 to 14 days.
 <i>Mildew-injured young fruit and spur foliage.</i>	Continue KARATHANE applications until terminal growth is completed to prevent overwintering infections in new buds. Don't take a chance on fruit or foliage injury with sulfur applications. And KARATHANE is compatible with most pesticides.
 <i>Secondary spread by summer spores.</i>	During the early summer, this type of diffuse spotted infection may appear on foliage. Keep it under control by spraying with KARATHANE. Your dealer or Rohm & Haas fieldman can recommend an efficient spray schedule.
 <i>Severely mildewed terminals and foliage resulting from uncontrolled primary and secondary infection.</i>	This type of foliage damage and overwintering of mildew can be prevented only by continuing KARATHANE applications through the period of terminal growth. Since mildew fungi are "waxy" and hard to wet, include an efficient spreader-sticker, such as TRITON B-1956 in your sprays.

Powdery mildew is staging a comeback in many areas. KARATHANE WD is the first organic fungicide to really control this fungus disease without harming the crop, the blossoms or the foliage. When properly used, it is safe for the spray operator and for the consumer. Apple growers and nurserymen are urged to contact their Rohm & Haas fieldman . . . or write direct for complete information on KARATHANE WD—the most effective way to stop powdery mildew and boost yields.



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WHERE CAN I BUY THE NEW VARIETY

Ben Owens peach?—Vermont.

From David A. Lawyer, Plains, Mont.

Red Queen apple?—North Carolina.

From Continental Orchards, Paw Paw, W. Va.

Salsa-Pride plum?—Arkansas.

From John R. Salsa, P. O. Box 341, Visalia, Calif.

Illinois everbearing mulberry?—Michigan

From Louis Gerardi Nursery, Caseyville, Ill.; Burgess Seed & Plant Co., Galesburg, Mich.; Peter Glaser, Lone Cypress Farm & Nursery, Koring Rd., Rt. 9, Evansville, Ind.

Gold and Niabell grape?—California.

From the Department of Viticulture and Enology, University of California, Davis, Calif., in limited supply of cuttings only.

Welcome gooseberry?—Illinois.

From Summit Nursery, Stillwater, Minn., and Swedberg Nursery, Battle Lake, Minn.

RECOMMENDED BRAMBLE VARIETIES

What bramble varieties should I plant in my area (the Piedmont)?—North Carolina.

Both black and red raspberries do well in the Piedmont, according to M. E. Gardner, of North Carolina State College. Of the blacks, Cumberland and Bristol are good. Latham is a good red variety.

The dewberry does best on lighter soil, Young or Boysenberry as well as the Carolina. If dewberry plants are set in heavy clay soil, they have a tendency to become over-vegetative and shy bearers.

DWARF FRUIT TREE BULLETIN

Can you recommend a bulletin on dwarf fruit trees?—Kansas.

Write to the Superintendent of Documents, Government Printing Office, Washington, D. C., for Cat. No. A1. 35:407 entitled *Dwarf Fruit Trees, Selection & Care*. Send 5 cents to cover cost. Also, there is a Dwarf Fruit Tree Association, which issues material on dwarf trees. Secretary-treasurer of the association is R. F. Carlson, Michigan State University, East Lansing, Mich.

HARVESTING BLUEBERRIES

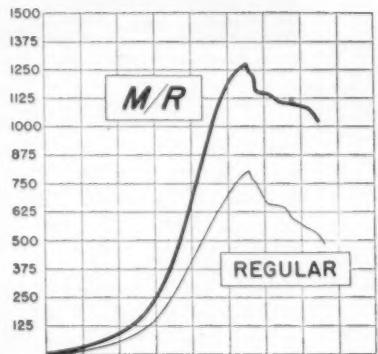
I am interested in the mechanical picking of blueberries and understand some work has been done on mechanized harvesting at Michigan State University. Could you give me further information?—Ohio.

During last season, Michigan State University and USDA co-operated in some extensive trials of mechanized harvesting of blueberries, says Harold P. Gaston, of Michigan State University, South Haven, who conducted the research. The fruit was separated from the plant by means of an electric powered vibrator and caught in cloth-covered frames. Then a reasonably effective air-blast cleaner was used. Although the results were good, some of the equipment was made in the laboratory and is not commercially available. Mr. Gaston feels that another season's work should be done before definite recommendations are made.



Completely new corrugated box for packing and shipping wet products

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Here are results from actual laboratory compression tests on regular and M/R boxes. Under 90% relative humidity, regular box collapsed under 800 lbs. M/R box withstood 1263 lbs. Proof that M/R board is stronger—wet or dry.

Hinde & Dauch's new M/R (moisture-resistant) boxes—made from a totally new kind of corrugated board—keep their strength no matter how wet the product they protect. Used in produce hydrocoolers, M/R boxes actually shed water instead of soaking it up. In addition, they stack and handle easier; provide better insulation, more product protection. Independent studies indicate that M/R boxes reduce shipping damage to peaches by 50%. And their smooth, clean surfaces can be printed with attractive designs.

Packing and shipping wet products? Write today for full information on how new M/R corrugated boxes can provide substantial savings on your operation.

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Take no chances when spraying with insecticides which may be poisonous — use the AO Goggle-Respirator Combination. In one compact, low-cost unit it protects 4 vital areas — eyes, nose, throat, lungs. Made by American Optical, World's Largest Maker of Personal Protective Equipment. Respirator is easy to breathe through — goggle is easy to see through (offers wide field of vision). Top quality charcoal in cartridges filters out harmful vapors — built-in fibrous filter shuts out dust, mist and spray particles.

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Fort Valley, Georgia

State News

- **Minute Maid to Develop World's Largest Orange Grove in Florida**
- **Elberta Drops to 20% of South Carolina's 5 Million Peach Trees**

FLORIDA

50 Years—250 Million Boxes

ON October 6, 1909, Dominick Calarco bought the first box of Florida citrus fruit sent to the New York fruit auction by the newly organized Florida Citrus Exchange. On March 3, 1959, the 86-year-old Calarco, still an active wholesaler, bought the exchange's 250 millionth box.

And, to further bridge the 50-year span of time, Robert H. Thomas, Jr., sang the Auctioneer's Chant from the same citrus podium of the Brown & Seccomb Fruit Auction Co. on Pier 27, where his father chanted out the complex sale song that sold the exchange's first box to Calarco.

It was all a part of Florida Citrus Exchange's 50th anniversary celebration. Formed in 1909 by a group of Florida growers, the exchange has been the state's largest shipper of fresh citrus for the past 49 years. It presently handles more than 25% of Florida fresh fruit shipments.

Minute Maid Corporation has purchased a 5300-acre river marsh area near Fort Pierce and plans to develop it into the world's largest Valencia orange grove.

By 1961 the company expects preparations to be completed for planting 400,000 Valencia orange trees with potential production of over 1.5 million boxes of oranges annually. The grove will begin bearing fruit in the 1966-67 citrus season.

SOUTH CAROLINA

Peach Plantings Up

NEARLY 5 million peach trees are planted in the state, an increase of about 13% since 1950, according to a preliminary report from South Carolina Crop Reporting Service.

The survey shows that of the 1305 commercial orchards, 74.8% are in the Piedmont; 9.8% in the ridge; 8.8% in the sand hills; 5.4% in the upper coastal plains; and 1.2% in lower coastal plains.

More than 70% of the trees are under nine years of age, and more than one-fourth are four to eight years old. Some 20% are under two years old. Peach trees in the state normally reach peak production in about eight years.

A little over 20% of the trees are Elberta, compared with 45% in 1950.

The 1958 survey indicates a production of more than 5.2 million bushels, an 11-year high. The summary shows that growers intend to plant 236,300 trees in 1959, and they expect to take out of production 166,900 this year.

The state peach industry lost one of its pioneer leaders with the death of Ben Martin Gramling, 83, of Spartanburg. In 1924 Mr. Gramling helped in providing the Spartanburg Belt's first commercial carload of fruit for market. Last year the industry produced some 6000 commercial carloads, most of them from Spartanburg County.

OHIO

Maturity Is Theme

THE Ohio State Horticultural Society chose "Maturity as a Measure of Evaluating Fruit Production and Marketing" as the theme of their program for the 112th annual meeting recently held in Toledo. This was significant as the whole question of proper maturity for harvesting concerns grower, merchandiser, and consumer.



C. W. Ellenwood at 1958 Orchard Day, Wooster.

* Among well-known out-of-town speakers was Dr. R. M. Smock, Cornell University, who addressed a breakfast meeting on "Fruit Growing Down Under in Australia and New Zealand." He also spoke on his favorite subject, controlled atmosphere storage.

Sam Dillon, whose Dillon Orchards in Hancock, Md., are the second largest in the United States, discussed apple and peach production and the problem of selling a market whose outlets are constantly being reduced.

A high light of the banquet was the presentation of a camera and projector to C. W. Ellenwood who is retiring from Ohio Agricultural

Extension Service, Wooster. The gift was presented by Ben Davis in behalf of the society.

New officers for 1959 are: Bernard W. Mumma, Dayton, president; Paul Thornburg, Ashland, first vice-president; C. W. Ellenwood, Wooster, second vice-president and secretary; Thomas E. Fowler, Wooster, assistant secretary; I. P. Lewis, New Waterford, treasurer.

NEW YORK

Hort Meeting

HOW to reorganize apple marketing occupied the major attention of fruit growers at the meeting of the New York State Horticultural Society held in Syracuse in January.



Thomas E. LaMont, Albion, newly elected secretary of New York State Horticultural Society. LaMont replaces Dan Dalrymple who was secretary-treasurer for 12 years and is now assistant commissioner of agriculture and markets in New York state.

Meeting at the same time at Syracuse's War Memorial was the New York State Vegetable Growers Association, the Empire State Potato Club, and the New York State Agricultural Society. The combined trade shows drew large crowds of fruit and vegetable growers.

Retiring as secretary of the New York State Horticultural Society is Dan Dalrymple who takes on the job of assistant commissioner of agriculture in New York state.

Resolutions passed at the meeting included recommendations for more leaf analysis service, change in the migrant labor law to exclude growers who hire less than ten migrant laborers, favoring more weather modification research, endorsing the Federal Trade Commission's investigation of the possibility of monopolistic practice in the food distribution industry.

Rolland J. Reitz, Rochester, heads Western New York Apple Growers Association, Inc., as president.

Gerald Verbridge, Williamson, succeeds Howard Baker, Ransomville, as vice-president.

New directors include Edward Pearson, Rochester; Norman

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for greater profits



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Tractors that *do more . . . at less cost . . .* have a vital place on your profit-making team. This new work ability is *tailored* for orchard and grove.

D-14 (36.65 belt hp.) and D-17 (54.43 belt hp.) Tractors are shielded to protect trees and tractor driver. Full or partial shielding is available. Power Director with high and low range in each gear gives you easy control of just the speeds you want . . . plus live power take-off. Two-Clutch Power Control keeps PTO-driven sprayers operating at full capacity regardless of forward motion.

A full line of deep-biting disc harrows is available in both tandem and offset models. TRACTION BOOSTER system works with implements to transfer weight automatically to tractor drive wheels as needed for heavy going. SNAP-COUPLER hitch saves time and work when changing from job to job. POWER-CRATER engine provides economical power you need for high-efficiency operation.

All the basic Allis-Chalmers advantages are now available in tractor models that can help you realize greater profits from orchard and grove. See your Allis-Chalmers dealer for complete information.

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ORTHOCIDE brings



"Our peaches brought top price and top prize using ORTHOCIDE"

"Last year our Red Havens brought top price and top prize at the shed. The inspector said he hadn't seen cleaner wood or a cleaner crop anywhere in the state," says Dalton Dunn, Manager of the 115 acre Reid Bondurant Orchards, located at Wynne, Arkansas. "I've been handling a spray gun for as long as I can remember and have never used anything that finishes peaches better than ORTHOCIDE. Other materials will tend to check scab and rot but ORTHOCIDE, timed right, cleans out scab and rot completely and sets a stronger, even bud crop."

ORTHOCIDE can bring you top market prices, too!

The outstanding fungicide, ORTHOCIDE, used on growing fruit, has improved color, finish and keeping quality of fruit for leading growers everywhere. ORTHOCIDE (captan) 50 Wettable provides exceptionally fine particle size, better sticking and wetting agents. Ask your ORTHO Fieldman how ORTHOCIDE in an ORTHO program can bring you top market prices, too!

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top quality, top market prices



"Using ORTHOCIDE on our apples helped increase profits"

"Using the ORTHO-ORTHOCLIDE program in our apple orchards has helped increase our profits by helping produce top quality apples," reports grower August R. Nolte of Golden Eagle, Illinois. "We follow the recommendations of our ORTHO Fieldman and certainly have the results to show for it. Our apples are scab-free and have the best finish ever, which we believe was helped by the use of ORTHOCIDE."



"ORTHOCIDE increased production and improved quality"

Kurt H. Roehrs of Clintondale, New York, says: "I believe ORTHOCIDE is the finest fungicide on the market; it has increased production and improved quality of our apples. And ORTHO field service is tops; the fieldmen are highly trained and know our local problems." Mr. Roehrs summarizes: "ORTHO is the most efficient and least expensive of all the apple spray programs I've ever used."



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Orlando, Florida
Springfield, Massachusetts

Thompson, Youngstown; Ralph Brown, Waterport; Mark Buckman, Sodus; and Gerald Verbridge. H. Justin Roberts, Medina, will serve another three-year term.

From New York Cherry Growers Association comes news of the re-election of Robert Wignall, Walworth, as president. Cameron Nichols, Lewiston, was renamed vice-president; and Herman Demay, Williamson, re-elected treasurer.

Mark Buckman, of Sodus, also will serve as one of three New York grower-directors on the board of National Red Cherry Institute, along with Wignall and Nichols.

GEORGIA

Non-Profit Peach Council

A CHARTER incorporating Georgia Peach Council as a non-profit corporation was issued recently to members for a 35-year period. General purpose of the corporation is to develop and promote the state peach industry.

NAMED HORTICULTURAL EDITOR

Cecil Blackwell, who was formerly with University of Georgia Agricultural Extension Service, Athens, has joined the staff of *The Progressive Farmer* as horticultural editor.

Council officers for 1959 are H. G. Riggins, Woodbury, president; Edgar Duke, Jr., Fort Valley, first vice-president; W. N. Harden, Commerce, second vice-president; Curtis Woodson, Thomaston, treasurer; and R. L. Livingston, State Agricultural Extension Service, Athens, secretary.

CALIFORNIA

It's All in Advertising!

WHEN you have a good product at fair prices, wide distribution, and good consumer acceptance, such as peaches have, advertising is the only additional help "God's Little Acre" needs.

That's what Dave Orthwein, Cunningham and Walsh advertising agency, San Francisco, told over 150 grower-members of California Freestone Peach Association, a voluntary bargaining group, at their recent annual meeting in Fresno.

In emphasizing the importance of promotion, Orthwein pointed out that the per capita consumption of canned peaches has paralleled population growth, while fresh consumption has declined.

The program also featured Dr. Kenneth R. Farrell, University of California, Berkeley, who discussed trends and prospects in the national peach industry.

"California freestone peach growers face the prospect of marketing an increased volume of their product

in competition with increased supplies of California clingstones and an increased volume of early season fresh peaches from the southeastern United States," he said.

George Crum, Winters, was elected president of the association, succeeding L. T. Powell, of Winton, who has served as president the past six years. Other new officers include Dick Black, Denair; H. T. Woodworth, Lodi; and L. T. Powell, all vice-presidents. Ed Blayne, Fowler, was named secretary and Dan Downey, Livingston, treasurer.

PENNSYLVANIA

100th Anniversary Meeting

CELEBRATING the 100th anniversary of the founding of their organization, members of the State Horticultural Association of Pennsylvania held a spirited, well-attended meeting in York the latter part of February.

The feeling was unanimously in favor of the new Pennsylvania Fruit Marketing Co-operative, Inc., an



Pennsylvania Fruit Marketing Co-op officers (left to right), seated: H. Helsy, Mercersburg, treasurer; W. M. Loft, Gardners, president; standing: J. E. Linds, Jr., Orefield, vice-president; R. W. Tyson, Gardners, secretary.

association set up to bargain with processors for the price of 12 million bushels of processing apples.

Growers also went on record as favoring state-wide enabling legislation to make possible a state marketing agreement which would allow funds to be collected for fruit promotion.

Willie W. Hunt, vice-president of National Food Products Co., asked that growers refrain from doing anything which would put processors in the Appalachian area at a disadvantage with processors in other areas. Speaking for the bargaining program was Kenneth Robinson, of Winchester, Va. (see March, 1959, AMERICAN FRUIT GROWER, page 14). He said that the most pressing need in the apple industry today is to find the means of stabilizing the violently fluctuating prices received for fruit for processing purposes.

Berkley I. Freeman explained the workings of the Great Lakes Cherry



"TRITHION® stopped mites all season"

Says: Fred Vollenweider, Seymour, Missouri

One of Missouri's largest growers of high quality apples, Mr. Vollenweider continues: "I applied TRITHION and two other miticides around June 1 last year. About a month later I checked each plot for mites. I had to put on another application of each of the other miticides because mites were beginning to build up. In the TRITHION plot, the trees remained free of mites the entire season. I had good results with TRITHION and plan to use more of it in 1959."

TRITHION is a new, long-residual miticide-insecticide developed by Stauffer. It has proved especially effective against mites, aphids and scales, as well as codling moth, and other fruit insects.

TRITHION is economical because fewer applications are required. It is less hazardous to apply than some other organic insecticides, and is compatible with most other pesticides. In apple spray programs, it is particularly effective with oil in the delayed dormant spray, and for use as a miticide-insecticide in mid and late summer sprays.

TRITHION is available in these formulations: 4 Flowable, an aqueous emulsion containing 4 pounds of TRITHION per gallon; TRITHION 25-W, wettable powder; and dust formulations.

TRITHION is also recommended for use on many other crops, including peaches,

cherries, grapes, plums, pears, citrus and strawberries. Ask your Stauffer dealer for full details. Write for free apple spray chart.

Stauffer Chemical Company, 380 Madison Avenue, New York 17, New York. Sales and service offices throughout the country.

©TRITHION is Stauffer Chemical Company's trade-mark (registered in principal countries) for O,O-diethyl S-p-chlorophenyl thiomethyl phosphorodithioate, an insecticide-miticide.

Research, service and products of highest quality have made Stauffer one of America's largest specialists in farm chemicals. Look for and buy Stauffer brand INSECTICIDES, FUNGICIDES, WEED KILLERS, MITICIDES, SEED PROTECTANTS, FUMIGANTS, GROWTH REGULATORS, GRAIN PROTECTANTS, DEFOLIANTS.



*hand-thinning
is old-fashioned!*

use

AMID-THIN

(contains naphthalacetamide)

chemically thins
fruit, eliminates
expensive hand
thinning!

improved size and
quality of fruit!



can be used early
without injury to
foliage or fruit!

You get better, more consistent thinning when you use Amid-Thin! And that means you eliminate hand-thinning—one of the most expensive and practically impossible chores in orchard operation today.

Used safely, *without injury to foliage or fruit*, Amid-Thin helps induce shoot growth, larger fruit because of leaf-fruit ratio more favorable to fruit and bud formation for the following year. And its wide range of safety at concentrations needed for thinning reduces chance of overthinning as compared to other commercial chemicals.

Commercial orchards have proved Amid-Thin's economy and effectiveness over the past four years. For bigger, better, more saleable fruit—try Amid-Thin!



PEACH-THIN 322

A chemical developed exclusively for peach thinning, Peach-Thin 322 incorporates the same advantages for peach growers as Amid-Thin . . . less labor, earlier thinning and better quality fruit that brings a better market price. Peach-Thin 322 has been used successfully in the field by commercial growers for two years. Write for complete details.



AMID-THIN

another chemical development of Amchem Products, Inc. (Formerly American Chemical Paint Co.)
St. Joseph, Mo. • AMBLER, PA. • Niles, Calif.

Amchem and Amid-Thin are registered trademarks of Amchem Products, Inc.

Producers Marketing Co-operative, Inc., and how cherry growers are attempting to bring stability into the price of their product by negotiating with processors.

Raymond F. Reiter, of Treedsdale Farms, Mars, Pa., who considers mulching an important orchard practice, stated that last year Treedsdale applied 900 tons of mulch.

All officers were re-elected as follows: John Phillips, North East, president; John Mengel, Leesport, vice-president; William Lott, Gardners, second vice-president; Paul Harner, State College, treasurer; Earl Strite, Harrisburg, secretary; and Wayne H. Edelman, Camp Hill, executive secretary.

VIRGINIA

New Hort Officers

PHILIP B. Glaize, Winchester, was appointed president of Virginia State Horticultural Society at the recent 63rd annual meeting in Roanoke.

Named to the board of directors



Philip B. Glaize, president, Virginia Society.

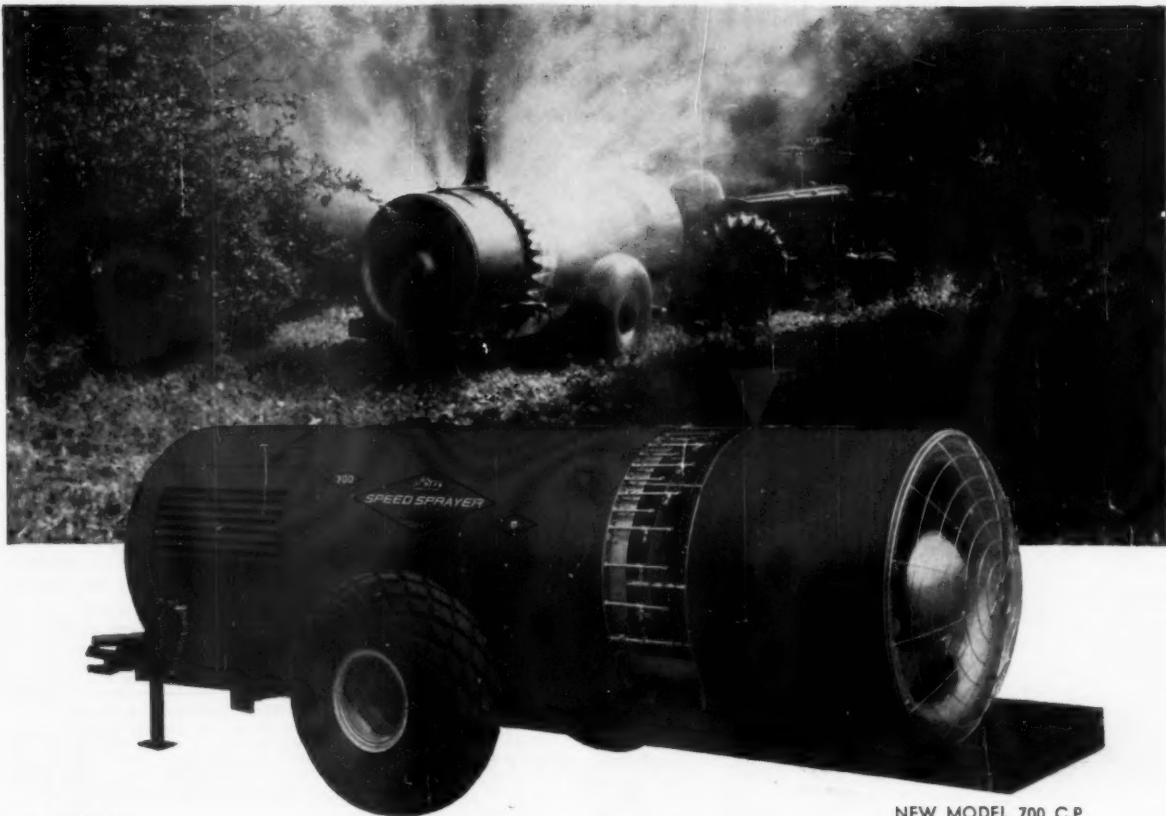
were Joseph Dorsey, Berryville; Robert S. Graves, Jr., Syria; P. H. Girling, Agricola; E. L. Hynes, Jr., Mt. Jackson; Dr. W. P. Judkins, Blacksburg; Raymond M. Kinzie, Troutville; S. R. Levering, Ararat; and William M. Payne, Staunton.

Listed on the peach industry committee are S. P. Bethel, Massies Mill; J. Morris Crumpacker, Roanoke; Roy McClanahan, Charlottesville; J. Goodwin Moore, Orange; J. Kenneth Robinson, Winchester; and Ellis G. Williams, Wytheville.

The three-day program featured as guest speaker Dr. L. P. Batjer, principal physiologist, USDA Agricultural Research Service, and Washington State College, Wenatchee. Dr. Batjer discussed the use of bulk bins in Washington State.

Fruit growers in the state who tried bulk bins for the first time in 1956 were so enthusiastic that several centralized packing houses

(Continued on page 59)



NEW MODEL 700 C.P.

John
BEAN®

DIAMOND JUBILEE SPEED SPRAYERS® for '59

**COVER MORE ACRES PER DAY WITH HIGHER AIR
VOLUME, MORE PERFORMANCE PER DOLLAR**

John Bean Diamond Jubilee orchard sprayers offer you performance never before achieved at such low cost . . . performance unequaled in any other sprayer. For every dollar invested, you get more effective air delivery, faster rate-of-work, and thorough, crop-protecting spray coverage under difficult wind conditions. Your John Bean dealer proudly invites you to measure sprayer performance in your orchard with the Speed Sprayer model or Speedaire attachment that best fits your specific requirements. Call him soon!

write now for free booklet, "What You
Should Know About Air Carrier Spraying"
also ask for complete data on
Registered SHUR-RANE Sprinkler Irrigation

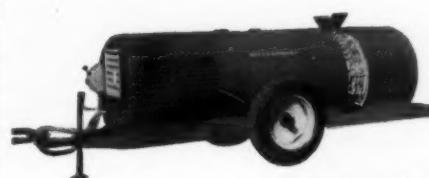
THE COMPLETE SPRAYER LINE



John BEAN LANSING 4, MICHIGAN
SAN JOSE 1, CALIFORNIA
Division of Food Machinery and Chemical Corporation



NEW MODEL 500 C.P.



NEW MODEL 400 C.P.



NEW MODEL 275 C.P.

FAN-BLOWN SMUDGE POTS

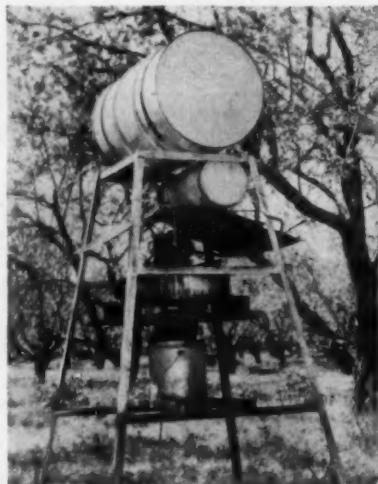
California grower uses own frost protection system to spread heated air into orchard

JOHN STINSON, Delhi, Calif., has his own orchard frost protection system. He has used 27 fan-blown smudge pots successfully for a number of years to protect 60 acres of trees.

Results from the machines depend greatly on the ceiling and drift. They create a temperature rise in the orchard of 4°.

The entire unit is mounted on a 4-legged, 6½-foot-high tower. A 55-gallon oil barrel is mounted on top of the stand. Underneath the barrel is a 7-gallon gas tank to furnish fuel for a 2-cycle lawnmower engine. Under the tank is a rain deflector plate of sheet metal. Below the plate is the engine which turns a 21-inch fan below it. A stainless-steel burner cone is mounted below the fan and extends down into a smudge pot that sets on a bottom platform.

The upper portion of the burner cone is attached to an air deflector plate that sets directly above the smudge pot. Heat rises up to this plate and is pushed off on all sides,



Fan-blown smudge pot directs heated air into orchard to eliminate danger of frost damage.

throwing heat in all directions. On top of the plate is a series of fins which causes the fan to direct some cooler air into the heated air. The

mixed air is about 40°. If the air is too hot, it will not flow very far into the orchard.

The advantage of the fan-blown smudge pot is that it spreads the air instead of sending it straight up as does a ground pot. The fan also gives much better combustion of fuel and very little smoke.

The machines were made in Stinson's farm shop. The unit runs 14 hours without refueling. The motors cost about \$42 and the entire machine about \$100 each. Saving just a small percentage from one crop was enough to pay for the cost of the smudge pots.—F. Leland Elam.

NEW REPRESENTATIVE

FLORIDA Division of Food Machinery and Chemical Corporation, Lakeland, has appointed John B. LaRosa as a sales representative for fresh fruit and vegetable equipment. He has been assigned to the northeast territory, including New Jersey, eastern Pennsylvania, New York, and New England.

PLASTIC GREENHOUSE PLANS

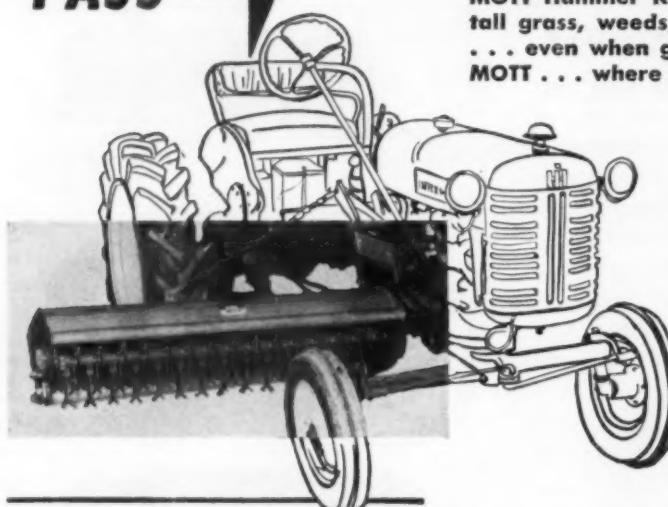
Construction details for Cornell University plastic panel greenhouses, names of suppliers of material, films, and adhesives for plastics, and reprints of current articles on plastic greenhouses are available from AMERICAN FRUIT GROWER, Willoughby, Ohio, for 50 cents a set.

IN ONE
PASS—

MOW YOUR ORCHARD

Clean, Neat...In less time...At lower cost!

MOTT Hammer Knife Mowers cut and shred tall grass, weeds, light brush and seedlings . . . even when ground is wet. Mow with a MOTT . . . where others cannot!



Shown is 48" MOTT Hammer Knife Mower with offset underslung tractor mounting. Also available for center and rear-hitch mountings in 4, 5, and 6 ft. cutting widths or self-powered gangs up to 19 ft. For simple, easy lawn care, 18" and 24" (walk behind) models. In all, 25 MOTT models to choose from.

A MOTT Mower wades in and leaves an even carpet of mulched cuttings that holds moisture and conditions the soil with natural humus for greater yields. You can easily mow with a MOTT where others cannot—close-in, around and under trees, regardless of grass height or ground roughness. Durable free-swinging knives can be sharpened in minutes—or replaced at dime store prices. MOTT Hammer-Knife action prevents flying sticks, stones and other debris. MOWERS are rugged, simple in design to give years of trouble-free service. MOTT saves in three ways—in first cost economy . . . operating economy . . . and maintenance economy.

For an amazing demonstration of the MOTT Hammer Knife Mower, see your local dealer, today!

Where Others Cannot You Can Mow With

mott
HAMMER KNIFE
MOWERS

4014 EBERLY AVENUE

ILLINOIS

AMERICAN FRUIT GROWER



Controls
all major
deciduous
fruit pests...
all season long!

COMPARE THESE TWO APPLE INSECT CONTROL SCHEDULES

TYPICAL SCHEDULE WITH CONVENTIONAL INSECTICIDES			Simplified GUTHION Schedule
Application	Insects	Chemicals	
Petal Fall	Codling Moth, Curculio, Leaf Rollers, Sawfly, Leaf Miner, Red Bugs, Mites, Aphids	Parathion, Dieldrin	GUTHION Alone
First Cover	Codling Moth, Curculio, Leaf Rollers, Leaf Miner, Red Bugs, Mites	Parathion, Dieldrin	GUTHION Alone
Second Cover	Codling Moth, Leaf Rollers, Curculio	DDT, TDE, Parathion	GUTHION Alone
Third Cover	Codling Moth, Mites, Aphids	DDT, Aphicide, Miticide	GUTHION Alone
Fourth Cover	Apple Maggot, Codling Moth, Leaf Rollers, Fruit Worm, Aphids	Lead Arsenate, DDT & TDE, Aphicide, Miticide	GUTHION Alone
Fifth Cover	Apple Maggot, Codling Moth, Mites, Curculio	Lead Arsenate, DDT, Miticide, Parathion	GUTHION Alone
Sixth and Seventh Cover	Codling Moth, Leaf Rollers	DDT, TDE	GUTHION Alone

Now, at last, you can use a *single* chemical to control every major insect pest that attacks your deciduous fruit crops! Against twelve of the most destructive fruit insects—including aphids and mites—GUTHION alone provides equal or better control than any combination of insecticides formerly required! The chart above shows the tremendous advantage of using GUTHION alone, right through the entire spray season.

GUTHION keeps fruit insects under control better *between* sprays, too, because it stays on the job . . . keeps working from one cover spray to the next.

Order your supply of GUTHION today, either as a wettable powder or a spray concentrate formulation.

Now available through Dealers in Agricultural Chemicals!

A PRODUCT OF
CHEMAGRO

"Chemicals for Agriculture—Exclusively!"

*Reg. U. S. Pat. Off. by Farbenfabriken Bayer,
A. G., Chemagro Corporation licensee.

Look, compare . . . you'll be a Massey-Ferguson man

LOW, COMPACT PLUS 4-PLOW POWER

New MF 65 Orchard Model combines big work capacity with Ferguson System maneuverability and precise implement control

Here at last is the ideal *big* tractor for larger orchards.

It has the power to work bigger tools that get the work done faster and more economically. But what makes this tractor different is the way its unique Ferguson System puts you in complete *control* of that power.

With its fully mounted implements, the MF 65 Orchard Model gives you precision control of tractor *and* tool as a single unit . . . you can do close-in work fast, without danger of bark or limb damage to trees or vines. Its low profile, full rear wheel fenders, steering wheel hood, and special smooth-grill air intake provide additional protection against damage to branches or fruit. Available with 12 and 16 inch rims . . . also with sand tread tires. You also get . . .

- *Fingertip implement control* . . . just a touch raises or lowers tool to clear trash, make short turns, or for transport. Automatic draft control.
- *Variable PTO* operates your spraying, fogging or dusting equipment at any ground speed. Two-stage clutching helps when making numerous stops and starts.
- *Arm-saving Power Steering* for fast, easy maneuvering. Comfortable "foam-float" seat. Fast-hitch 3-point linkage, with wrist-action lower links and adjustable top links that take *any* 3-point hitch tools of any make you already have.

Ask your Massey-Ferguson dealer about the new MF 65 Orchard Model today!

FULL LINE OF MASSEY-FERGUSON TILLAGE TOOLS . . . close-coupled, 3-point hitch mounted implements designed especially for orchard work. See them at your Massey-Ferguson dealer's: Offset Disc Harrows in 3 sizes . . . Tandem Disc Harrows in 2 sizes . . . rigid and flexible Spring Tooth Harrows. Both mold-board and disc plows available . . . also a special rotary cutter.



Now it's

MASSEY-FERGUSON

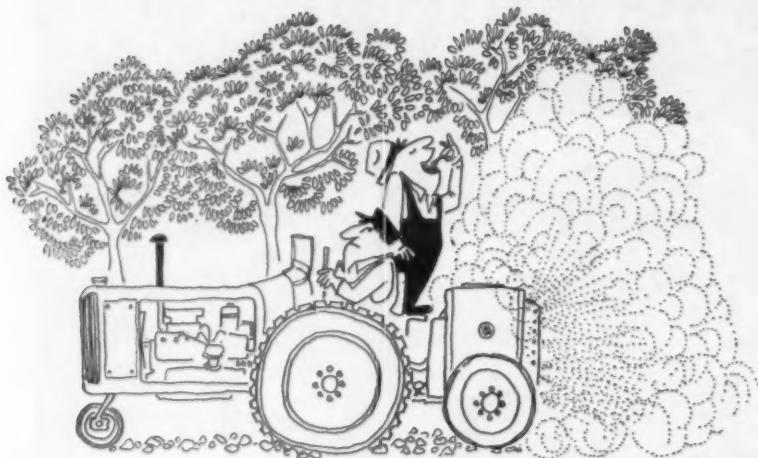
Massey-Ferguson Inc., Racine, Wisconsin

Pace-Setter of Modern Farming . . . World's Most Famous Combines and the Only Tractors with the Ferguson System





SPRAY UP TO THE EVE OF HARVEST!



**USE ACTISPRAY FOR CHERRY
LEAF-SPOT PROTECTION BEFORE,
DURING AND AFTER CROPPING
PERIOD** **ACTISPRAY***

Applied four days before harvest, ACTISPRAY gives modern antibiotic control of leaf-spot throughout picking, on both sweet and sour cherries.

- Leaves no visible residue
- Economical—one tablet to 100 gallons of water makes enough 1 ppm solution for 25 trees
- Recommended for nursery stock and nonbearing trees

ACTISPRAY Tablets come in convenient package of 24 (2 tubes of 12).

Ask your supplier today for ACTISPRAY.

ACTISPRAY is a product of **Upjohn**

THE UPJOHN COMPANY, Chemical Sales Division, Kalamazoo, Michigan *TRADEMARK, REG. U. S. PAT. OFF.

Grapes

Fertilizer Costs

RECENTLY a southwestern Michigan grape grower asked, "How can I reduce my fertilizer bill and still get good yields and high sugar?"

The answer will depend upon: 1) The natural level of fertility and varying nutrient needs of each individual vineyard, and 2) the types, grades, and amounts of fertilizer that have been used in the past.

One should remember that fertilizers simply furnish a plant with nutrients and that excesses will be of no benefit and may often be detrimental. Applying nitrogen to a nitrogen-deficient vine, for example, will improve growth, make healthier foliage, and produce more and better fruit, but the application of too much nitrogen may result in excessive late growth, delayed maturity of fruit and wood, and fruit with low sugar.

A vineyard in a high state of vigor located on good, fertile soil may need no additional fertilizer. In some cases continued applications of nitrogen may be needed though there would be no need for a complete fertilizer program.

Let's look at some of the general nutrient requirements of vineyards.

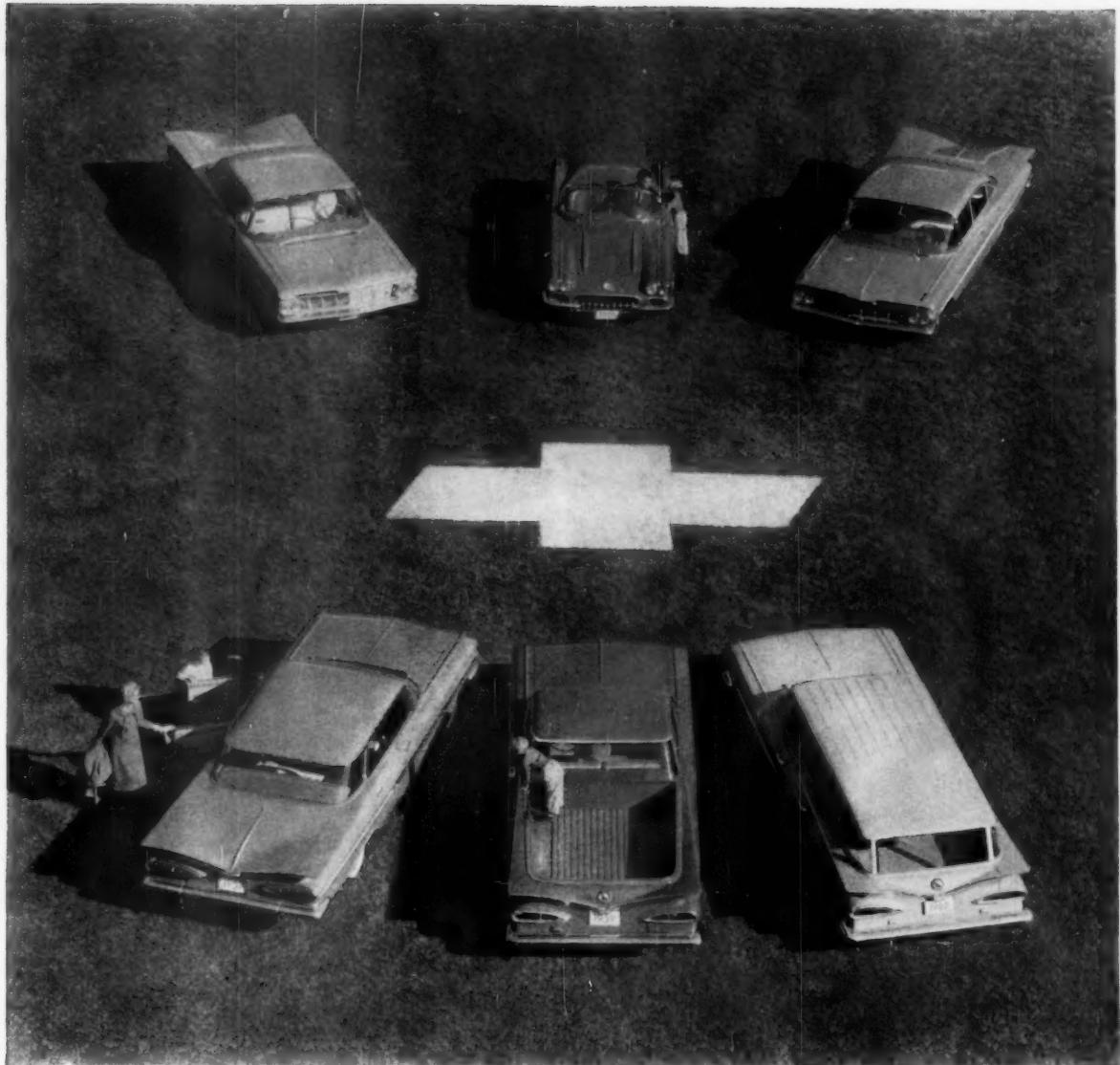
Nitrogen is the most important nutrient in grape production. An adequate supply of nitrogen stimulates shoot growth and increases leaf size, cluster size, and fruit set. Its benefits can be seen in vigorous, productive vines, large yields, and good quality fruit.

Most bearing vineyards need approximately 50 pounds of actual nitrogen per acre per year. The amount should be varied according to growth. If vine growth is too vigorous, use less; if low in vigor, use more.

Phosphorus is used in only small amounts by grapes compared with either nitrogen or potassium. There is some justification for applying phosphorus to vineyards to aid in cover crop growth for the production of organic matter. However, the amount of phosphorus needed is not great and annual applications are not necessary.

Potassium is second in importance to nitrogen in the nutritional requirements of grapes. It is utilized in large quantities by growing, producing vines. Potassium deficiency on grapes has been found in many domestic and foreign areas, but in the United States it is more widespread in the eastern than in the western areas.

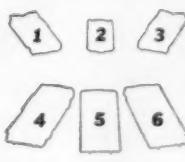
Potassium deficiency reduces the



CHEVROLET—What could beat one of these beauties

(unless it's two of 'em!)

Fresh-minted models for every taste.
All with a remarkable new ride, new handling ease, more seating room, bigger, better cooled brakes, vastly expanded visibility—and Chevy's own special brand of economy and reliability. Now there's no reason to want a car that costs more!



Chevrolet Division of General Motors
Detroit 2, Michigan

1—Biscayne 2-Door. This beauty's the lowest priced 6-passenger Chevy you can buy. And there are two other thrifty Biscaynes to choose from.

2—Corvette. America's only real sports car offers the snappiest, happiest driving you've known.

3—Bel Air 4-Door. It's as luxurious as it looks, yet priced just above Chevy's thriftiest sedans.

4—Impala Sport Sedan, one of Chevy's full series of Impalas, offers looks and luxury you'd expect only on the most expensive makes.

5—El Camino combines stunning passenger car styling with the load space of a pickup.

6—Brookwood 4-Door, one of Chevy's 5 wonderful wagons, is just as beautiful as it is dutiful.

PHYGON-XL

FUNGICIDE

MOST EFFECTIVE, LOW-COST CONTROL!

PHYGON-XL GIVES THE BEST CONTROL FOR LESS

Phygon stops apple scab and peach brown rot blossom blight. Many growers report 99% clean fruit after spraying or dusting with Phygon. In addition to being the most effective organic fungicide on the market today, Phygon costs you less. It costs you up to 30% less than other commonly used fungicides.

Phygon also controls potato seed-piece rot up to 30 days after treatment, hence planting can be delayed in case of rain. Better stands, higher yields. Consult your county agent for recommendations.

Order your Phygon from your local supplier today. Write, wire or phone us if unable to locate immediate source of supply.



United States Rubber

Naugatuck Chemical Division

453-H Elm Street, Naugatuck, Connecticut

producers of seed protectants, fungicides, miticides, insecticides, growth retardants, herbicides: Sperton, Phygon, Aramite, Synklor, MH, Alanap, Duraset.

vine growth and causes low yields. The leaves on deficient vines become chlorotic and the margins of the leaves are often burned. Fruit quality is lowered because leaf area is reduced and less sugars are produced.

A potassium deficient vineyard should receive 100 pounds or more of actual potash per acre for one or two years to correct a deficiency. After the deficiency has been corrected, the vineyard should receive annually about the same amount of potash as of nitrogen.

Lime has not proved to be of direct value in most vineyard areas. The supposed need for lime, as measured by soil pH, is often elusive and misleading. Grape vines have a wide tolerance to soil acidity and will grow and produce well on soils ranging from below pH 4 to pH 8 or over.

The addition of lime to acid soils, however, may improve the growth of cover crops so important in maintaining a fertile, productive soil. If used, dolomitic lime is recommended because of the magnesium it contains.

Minor element deficiencies, although of limited occurrence, have been troublesome in some areas. These deficiencies usually can be most effectively corrected with a foliar spray. Most grape growers need not consider minor elements necessary in the regular fertilizer program.

It is more economical to apply separate materials than complete or mixed fertilizers. The choice between fertilizer materials should be on the basis of cost per pound of plant nutrient needed. Cost of handling and application should be considered.

In Michigan, ammonium nitrate and muriate of potash are most commonly used as separate fertilizer materials. They are economical in cost and are easy to apply. The cost of these materials to supply 50 pounds each of nitrogen and potash to an acre of grapes in southwestern Michigan is approximately \$8.90. To supply the same amounts of nitrogen and potash as 12-12-12 would cost about \$16.22 per acre. If the vineyard did not need any potash, the nitrogen needs could be supplied for \$6.46 per acre by using ammonium nitrate. On 20 acres of grapes, using ammonium nitrate instead of 12-12-12 reduces fertilizer costs almost \$200.

There are many vineyards that have received complete fertilizers for many years. Such vineyards may receive a program of nitrogen only, or nitrogen and potash, without any reduction in productivity or fruit quality for many years. It is in vineyards that have been well managed and are in good vigor that a reduction in the fertilizer cost may be made.—R. P. Larsen, Hort. Ext. Spec., Michigan State University, East Lansing.



State REPORTS WESTERN EDITION

Green Belts Being Developed in Santa Clara Valley

THE premium on land in the Santa Clara Valley of California these days, has probably reached an all time high. One competitor desires it for homes; another wishes to keep it in agriculture. One wants it for its location near industries; the other would like to harvest crops of fruits and nuts.

The wonderful climate has caused this intense competition. The great increase in population in the valley has created a demand for all types of dwellings. Industry has been able to find and attract skilled help due to the excellent living conditions in the valley.

One hundred years ago Santa Clara Valley boasted thousands of head of sheep and cattle. With the gradual change to dry-land farming in the last half of the 19th century, came great yields of cereal grains. A Frenchman brought a trunk full of prune-tree cuttings to the valley during this era. With the development of wells for irrigation, the deciduous fruit industry was firmly established.

Santa Clara County comprises 850,000 acres of land lying south of San Francisco Bay. The valley floor claims the better soil; 160,000 acres of it. The good orchards are located on the deeper soils.

The law of supply and demand has been working with the land in the valley. As Henry Miller, the California Cattle King, stated in 1900: "There will be more people, but there will be no more land."

Growers have been faced with monetary offers from land developers that have caused them to wonder if they can afford to farm on this

deep soil. Some have resisted temptation. With the help of the Planning Commission they have set up "Green Belts" to defer city annexation. At this time, some 50,000 acres are in the "Green Belt" program.

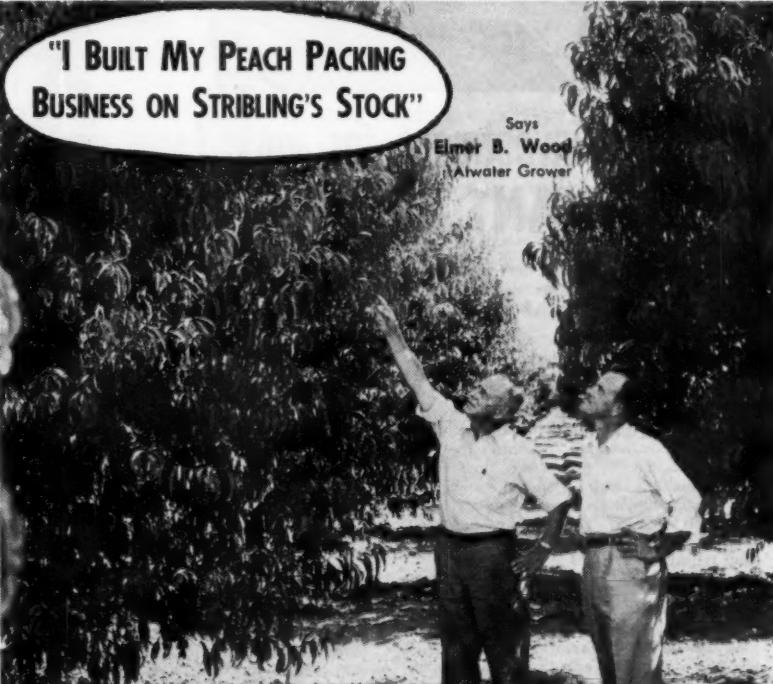
This program aims to save valuable farm lands from expanding urbanization. Its sponsors believe that it is possible for city concentra-

tions and countryside to exist side by side. It is indiscriminate sprawl that defeats urban unity and ruins the countryside for any kind of prosperous agriculture which could bring relief to the urban scene.

A farm organization has attempted to legislate to control taxes in relation to earnings of the land. At this time this legislation has been

"I BUILT MY PEACH PACKING BUSINESS ON STRIBLING'S STOCK"

Says
Elmer B. Wood
Atwater Grower



"I've concentrated on planting Stribling peach trees since the 1920's because I'm convinced they're the best you can plant," Elmer Wood explains.

Elmer is particularly enthusiastic over his success with S-37 Rootstock. "Here Stribling's have developed the best answer yet to the problem of nematodes," he says. "My son and I both have sandy, light soil and we always specify S-37 for new plantings of peaches and almonds."

"Besides the quality we get from Stribling's," Jim Wood adds, "the service is excellent too."

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Commercial Price List

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Stribling's
NURSERIES INC.

HERE ARE 4 REASONS WHY THIS 80 lb. BAG IS JUST LIKE MONEY IN YOUR POCKET



the best investment for your farm today is ELEPHANT BRAND FERTILIZER

You want to make the highest profit you can from your crop this year. Here are 4 reasons why Elephant Brand Fertilizer can mean more money for you at harvest time.

Reason No. 1:

Elephant Brand saves you time and effort because it has high analysis. Would you mix your chicken feed with a bag of sand just to make it look like more? Of course not. It's "low analysis" and it wouldn't fool the chickens. Some fertilizers are "low analysis". Elephant Brand is just the opposite. It's "high analysis". Every bag contains more of the "food" that your crops need, so fewer pounds per acre supply the plant food required.

Reason No. 2:

Elephant Brand gets on the job faster because it has high water solubility. Fertilizer has to dissolve before your crops can use it. Elephant Brand's "high water solubility" allows it to dissolve faster, get to the plant quicker, even when soil is low in moisture.

Reason No. 3:

Elephant Brand makes more plant food available to each plant because it has high availability. What good is a big meal to a hungry man if he can't eat it? Your crops, too, might go hungry even when you "feed" them fertilizer. This happens with fertilizers that don't release or make available their plant food easily.

Reason No. 4:

Elephant Brand is easier to handle and apply because it is free-flowing. Elephant Brand Fertilizer is pelletized, just the right size to flow through standard fertilizing equipment without clogging. It comes in tough, 80-pound bags that are easy to stack and handle.

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unsuccessful. A cherry orchard in the north part of the county pays \$108 an acre taxes; truck-crop land has been taxed over \$60 an acre.

When the assessor begins to consider the grower's land as potential urban real estate, the assessed valuation is boosted. He is not bound by law to consider earnings of land only, but may consider potential use and the present prices paid for land in the area.

The Planning Commission is of the opinion that some program of government buying of the urban rights of the agricultural land might be instituted. The land would be owned by the growers, but would be used only for agricultural enterprises. This would save the deep soil for agriculture.

Many growers feel that if other segments of our society can pay more for the land, they should be free to do so. Also, individual growers should not be restricted as to when and at what price they should sell their land.

How have land values changed in Santa Clara County in the past 10 years? From Palo Alto on the north to Gilroy on the south, gradual increased demand for land has been the rule. Low lands near the bay east of Palo Alto have climbed from \$200 an acre to \$21,000 an acre and more. In the Los Altos hills, prices of \$1500 an acre 10 years ago have jumped to \$25,000 an acre today.

Key developments such as "Macy's Shopping Center" west of San Jose have caused adjacent property to skyrocket. Twenty acres nearby finally sold for \$20,000 an acre even though the grower resisted selling for a number of years. Ultimately, 4 well-located acres of the 20 sold for \$60,000 an acre.

It is a very serious problem not only here in the valley, but all over the country if the use of our better land for houses, manufacturing plants, and highways threatens our food supply.

In the past 15 years 17 million acres of the flattest and most fertile farm lands in the U.S. have been converted to urban uses. In metropolitan areas agricultural land goes under asphalt or buildings at the rate of 238 acres for each 1000 population increase.

However, in studying the problem here, we find orchard people developing new fruit enterprises in other parts of the state. Research and field tests are assisting in supplying new varieties of trees to fit the new environment. Technical skills are helping to overcome specific difficulties.

The present land development "monster" may be better than a plan to regiment land which might destroy private and individual freedom



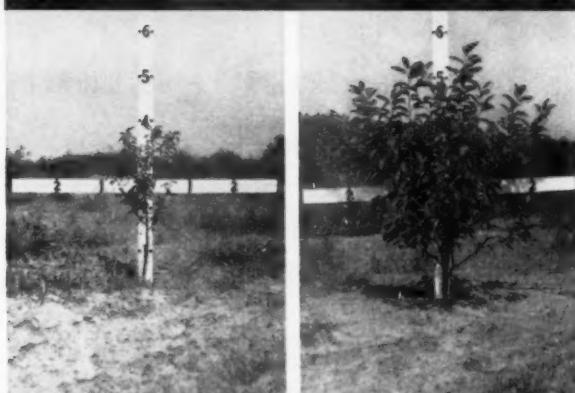
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3 point profit program for fruit growers



1. Control grass with Dowpon

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2. Control nematodes with Dow soil fumigants

Nematodes are among the most serious economic threats to the fruit grower. They can cut the production of strawberry plants by one half. They can also slow the development of young fruit trees almost to a standstill. And they are reported to cause the devastating "spreading decline" which strikes citrus groves. From Dow, you can get scientifically tailored fumigants for every nematode problem. Before planting a bed, orchard or grove, ask your Dow dealer to help you select the right fumigant to control these costly, crippling soil pests.



3. Prevent and cure iron chlorosis with Versenol products

Top quality and top yields call for plenty of iron. You can keep trees green, vigorously growing and in top production by furnishing available iron in the form of Versenol® F or Versenol FA. Versenol F is the high-strength form of this organic iron source. Versenol FA employs vermiculite as a carrier for easier mixing with dry fertilizers or direct application to the soil. Ask your Dow dealer to show you evidence of the remarkable results you can obtain with these Dow iron chelates.

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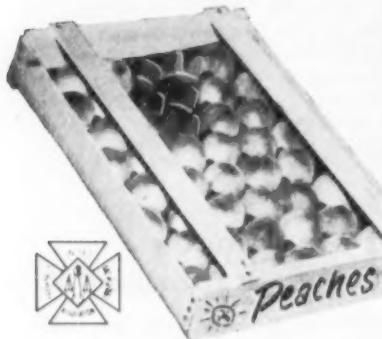
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APRIL, 1959

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of decision. The American farmer without question has the ability to overcome difficult obstacles. Through the medium of research he will be supplied with the "know-how" and tools to meet these fast-changing times.—M. S. Beckley, Santa Clara County Farm Advisor.

CHEMICAL HANDBOOK

WITH the spray season getting underway, problems with chemicals are sure to come up. *Agricultural Chemicals Handbook* from State College of Washington may be just what you need. More than 15 scientists and other experts teamed up to compile and condense a wealth of information on agricultural chemicals.

Chapters include lawsuits, ground equipment, residues, pesticides, rodenticides, weed killers, health hazards, safety, and other subjects.

This is not a book of solutions for specific problems. Instead, the handbook deals with basic principles that make it easier to understand new, detailed information pouring out of the laboratories. It is intended for technicians, fieldmen, pest control license applicants and operators, and regulatory people.

Copies are available from Student Book Corporation, State College of Washington, Pullman, Wash. The cost is \$1.03 each.

ALMOND TREE INJURY

ALMOND GROWERS are faced with a serious problem in harvesting their crops. The manual method of slapping a mallet against branches of the tree to shake off the ripe nuts oftentimes causes severe bruises that harm tree tissue and set up favorable conditions for "mallet wound canker" disease.

According to University of California plant pathologists W. H. English and J. E. McVay, this canker can completely girdle a branch in two years and cause it to die. Two years of experimenting have failed to isolate the organism causing the disease; however, current tests of cultures of bacteria and fungi from dead tissue of diseased trees appear to be more promising.

Bruise canker is more prevalent in Texas variety of almonds, but Nonpareils are also attacked.

The only available known remedies are replacement of the Texas trees with another variety or development of a system of harvesting that will avoid bruising.

Two commercial boom-type harvesters were tested by the university last year, but results are not yet tabulated.

BOOKS

• *Western Fruit Gardening*, by Reid M. Brooks and C. O. Hesse. A handbook for the home gardener on fruit varieties; climatic adaptations; soil, water, and nutrient requirements; pruning and propagating; disease and pest control.

287 pages \$4.50

• *Plant Regulators in Agriculture*, edited by H. B. Tukey. 17 specialists present different uses of plant regulators; tell what they are, how they operate, how plants respond.

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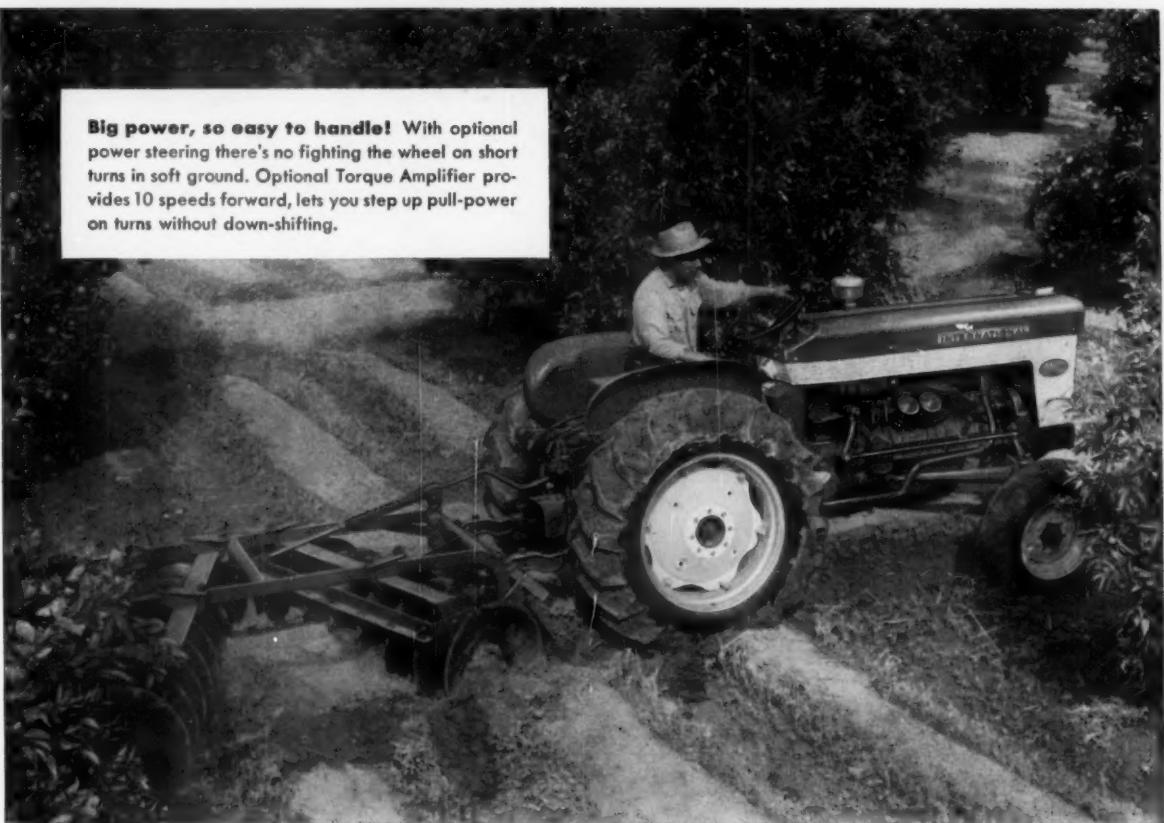


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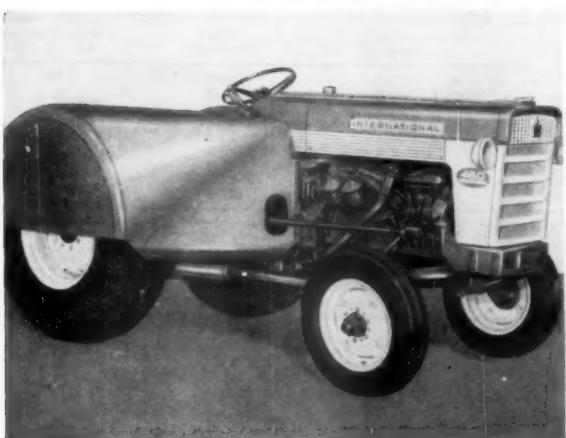




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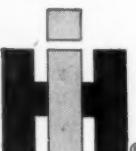
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Berries

Virus in Blueberries

FROM recent studies in New Jersey, USDA and state scientists learned that wild blueberry plants are carriers of blueberry stunt virus, a disease which cuts yields in cultivated blueberry plantings.

Previously growers believed that isolating their new plantings from old fields would be adequate protection. The disease wasn't recognized in highbush or other wild species but was believed to come from out-of-state cultivated blueberries.

The recent studies indicate that growers will have to practice strict control of leafhoppers, which carry the virus disease, and possibly destroy native blueberries in the area if blueberry stunt becomes a problem.

June-Set Strawberries

NEWER methods of storing strawberry plants, i.e., the storing of fully dormant plants in polyethylene-lined crates at 30° F., make summer plantings feasible and practical.

This method of storing strawberry plants not only keeps the plants well, but it can double storage life (8 to 10 months). Such plants come out of storage with green turgid leaves and bright succulent roots. Cost of packing in polyethylene is less than the regularly used sphagnum moss method. Weight of polyethylene also is much less than that of wet moss, resulting in a saving in shipping costs.

were produced for satisfactory matted beds, but because of late frost in the spring of 1956, no yields were obtained. In 1956 the study was continued with the Pocahontas variety at Salisbury. The plants were set June 5, 12 inches apart in the row and 52 inches between rows in eight experimental plots. Yields were calculated at slightly more than 13,000 quarts per acre, and plant survival was 100%.

Cold-stored plants of eight varieties were set June 3, 1957, at Beltsville at the regular planting distances, 18 inches between plants and 42 inches between rows. Yields, size of berries, survival, and runners produced are given in the table.

The high yields and good quality of fruit produced in 1958 by seven of the eight varieties indicate that June planting of cold-stored strawberry plants offers a promising method for berry production. Yields ranged from 9948 (Redglow) to 13,098 (Pocahontas) quarts per acre. Much of the fruit graded Fancy. The Armore variety, for example, produced 80% extra large (1 1/4 inch diameter or over) and large-size (1 inch diameter or over) berries in the first four pickings.

Advantages for June plantings over earlier planting are ease in fitting land, reduction in cost of weed control because of the shorter time plants are in the field, and better distribution of the work load because

RESPONSES OF COLD-STORED PLANTS
(Set June 3, 1957, Beltsville, Md.)¹

Variety	Yield	Extra Large (1 1/4" Diam.) and Large (1" Diam.) ²		Plant Survival ³	Mean Runners ⁴ Aug. 6, 1957
		Quarts/Acre	Percent		
Pocahontas	13,098	48.8	95.0	55.0	
Armore	12,932	80.1	97.5	46.0	
Sparkle	12,767	57.9	95.0	65.2	
Tennessee Beauty	11,854	28.9	95.0	35.0	
Catskill	11,771	64.4	100.0	39.7	
Fairfax	10,943	54.7	100.0	29.0	
Redglow	9,948	63.8	92.5	34.5	
Albritton	4,394	54.7	27.5	5.3	

¹Plants dug Dec. 13, 1956, stored at 30° F. in 1.5 mil polyethylene-lined crates until planted June 3, 1957.

²Per cent of berries in these two sizes for first four harvests.

³40 plants set.

⁴Number of runners per 60 feet of matted row.

Three years of field studies with cold-stored plants set at different planting dates from April to November at Salisbury and Beltsville, Md., indicated that June-set plants are good producers in these localities.

In tests begun in 1955 with cold-stored Blakemore plants set June 1 at Beltsville, sufficient runner plants

Acknowledgement is due William A. Matthews, University of Maryland, Research Farm, Salisbury, for his assistance in the field studies at Salisbury.

planting time does not conflict with early spring work.

A grower's success with June planting will depend on the choice of varieties, his region, the quality of the cold-stored planting stock, and the use of cultural practices to provide a sufficient number of vigorous runner plants. Irrigation will be needed at time of planting and occasionally thereafter. Obtaining cold-storage plants that are fresh looking, free of

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decay, and of good crown size is especially important.

The grower should not delay setting the plants after their removal from cold storage. Grading plants prior to planting, especially if plants are to be set by machine, may improve the stand because plants with damaged crowns can be discarded.

June plantings in regions with a short growing season or cool summers might not produce similar yields. For this reason it would be wise to try small scale plantings to evaluate the method as a means of producing high quality fruit in different regions.

—John T. Worthington, Marketing Research Division, and D. H. Scott, Crops Research Division, Agr'l Research Service, USDA.

Stop Those Weeds!

THE discovery in 1946 that strawberries were somewhat resistant to 2,4-D was received with enthusiasm by those who had experienced the problem of keeping this crop free of weeds.

This chemical did not solve all problems, but it did stimulate continued research. Today there are several herbicidal chemicals in addition to 2,4-D that can be used to help keep the strawberry planting free of weeds.

New Plantings—In most seasons weeds in newly set fields can be controlled satisfactorily by mechanical cultivation or hoeing until runner plants begin to establish roots. After

FRUIT PEST HANDBOOK

(SEVENTY-FIRST OF A SERIES)

STRAWBERRY LEAF SPOT

LEAF spot is a well known fungus disease in most strawberry growing areas of North America. The occurrence and severity of leaf spot will depend upon local climatic conditions and varieties under cultivation. Severe outbreaks of leaf spot can result in reduced yields, lower grade of harvested berries, and a loss in vigor of infected plant.

The signs of leaf spot are first noted as small, purplish, circular spots on the upper surface of the young leaves. Later, the centers of these spots become gray to white in color and are bounded by a broad reddish-purple margin. The spots vary in size up to $\frac{1}{4}$ inch in diameter; in severe infections the spots may coalesce together, imparting a premature fall coloration, with the eventual death of the leaf. The appearance of leaf spot on the under surface of the leaves is similar to those on the upper surface, though less brilliant in color.

Infections may also occur on leaf stems, fruit stalks, and fruit caps which exhibit lesions similar to those on the leaves, except these spots tend to be more elongated than circular.

In addition, during favorable disease conditions the fruit itself may become infected and is termed "black seed." On light colored varieties or unripe fruit, one to several seeds on the berry's surface are brownish-black in color. This discoloration is also in the area surrounding the seed and in the pulp under the infected region. Such affected berries don't rot, but the market grade is lowered or the fruit may not be marketable.

The causal fungus overwinters in the previously infected leaves and other plant parts. In the spring and early summer during periods of high relative humidity, spores

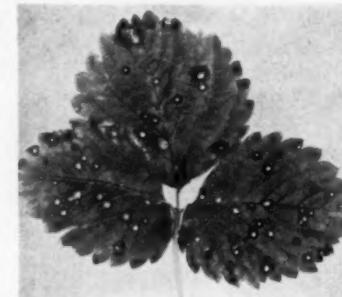


Photo: Mich. Agr. Exp. Station
Signs of strawberry leaf spot on leaves.

emerge from the previously infected areas and are dispersed by rains onto the new developing susceptible leaves. Infection takes place through stomata (air pores) which are limited generally to the lower leaf surface, therefore, directly above the area of overwintered infective leaves and other plant parts. Thus, in strawberry areas where the early season is cool with prolonged wet periods which are ideal conditions for spore production, dissemination, and infection leaf spot will become severe. If relatively dry weather occurs during this period as the strawberry plants are developing, little or no leaf spotting will occur.

Control. Through the years the relative resistance and susceptibility of strawberry varieties have been listed. However, with the ever-changing variety picture, strawberry growers should contact local authorities for up-to-date information. Some common varieties known to be very susceptible are Amore, Blakemore, Dunlop, Marshall, and Sparkle.

Cultural practices should include selection of planting sites that not only have good air drainage but soil drainage as well; avoiding over-planting to facilitate well spaced runner plants in narrow matted rows; and avoiding an excessive spring application of nitrogen which promotes a large amount of succulent, susceptible plant growth. In small plantings, removal of the older leaves of the runner plants before setting the field is a good practice.

Spraying of commercial strawberry fields for leaf spot control is a common practice. A 4-4-100 Bordeaux mixture or tri-basic copper sulfate used at an equivalent rate is very effective. The newer organic fungicides such as captan and ferbam have shown merit. The timing and number of sprays will depend entirely upon the specific strawberry growing area. In general the applications should be at 10-day intervals during the active growth period of the fruiting beds.—Robert H. Fulton, Michigan State University.

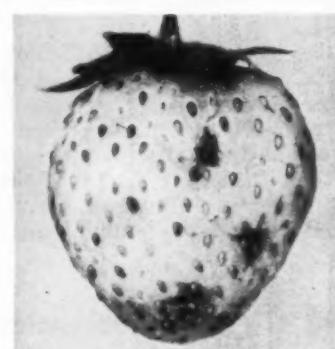


Photo: USDA
Black seed infection on fruit itself is caused by strawberry leaf spot organism.

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this time mechanical hoes, although beneficial, are not entirely satisfactory.

Growers can use 2,4-D (amine) from three to four weeks after setting until late summer or early fall when fruit bud differentiation begins; however, considerable suppression of runner production may result. At this rate 2,4-D will kill most small broad-leaved weeds but is effective on grasses only as they germinate.

Sesone (Crag Herbicide 1) causes less injury and suppression of runner

in the fall before spring planting of the strawberries.

Fall-Germinating Weeds — Fall germinating, over-wintering grasses and broad-leaved weeds such as chickweed and henbit quite often become serious problems.

Sesone applied in late August or early September reduces the germination of these over-wintering pests. CIPC has been found to give effective control of these weeds but injury to the strawberry plants has been reported. Use of granular CIPC or delaying application of liquid CIPC until the plants are dormant appears advisable.

In cases where fall germinating weeds are primarily broad-leaved, 2,4-D (amine) applied in late fall after fruit bud differentiation has been very beneficial.

Dinitros such as Premerge or Sinox PE also have been used to kill fall-germinating weeds. Considerable injury may result, however, if the plants are not fully dormant.

Both CIPC and 2,4-D applied in late fall or early winter will reduce germination of grain and weed seeds in mulching materials.

Fruiting Fields—Early Spring: Where fall-germinating over-wintering weeds are controlled in late fall, the field is usually relatively free of weeds until late April or early May. Sesone can be used as growth begins in the spring to control early spring germinating weeds if such weeds become a problem.

During Fruiting: Weeds, especially crabgrass, which germinate during the fruiting season (bloom to end of harvest) often become a serious problem the second summer. Crabgrass between the rows can be removed by cultivation, but plants within the row must be removed by hand labor. It is not unusual for fields to be lost to crabgrass that germinates during the fruiting season. As yet there is no chemical that will selectively remove crabgrass from strawberries after it has become established.

Application of liquid herbicides after the fruits begin to form may not be desirable due to possible injury



Wheat growth controlled by Sesone on left and EPTC (Eptam) on right, as compared with untreated row in center. The herbicides were applied in mid-June; photo was taken on July 15.

AMERICAN FRUIT GROWER

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schedules and recommended dosage of dieldrin in your area.

Dieldrin is long lasting, too. Its killing action lasts many days after application . . . puts an end to "cat-facing" insects no matter how they contact it. Dieldrin will pay for itself with better quality, more marketable fruit.

This season, don't let plum curculio and other "cat-facing" insects lower the quality and value of your fruit yields. Stop 'em with dieldrin. Dieldrin is available under well-known brand names from your insecticide dealer. See him today.

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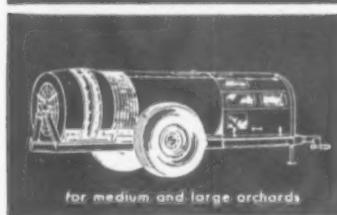
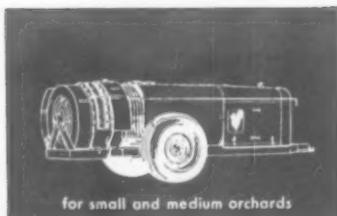




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and/or herbicide residue; however, granular formulations appear to have great potential for use at this critical period.

Granular formulations of 2,4-D, CIPC, Randox, Eptam, and 3Y9 have been used at early bloom without apparent injury and with marked suppression of crabgrass germination during the fruiting season. Sufficient herbicide must be used to stop crabgrass germination for six to eight weeks.

After Harvest: 2,4-D (amine) properly used can eliminate most of the weeds the second summer. The field must be renovated immediately after harvest and 2,4-D (amine) applied ahead of crabgrass germination. Another application will be needed in three to four weeks, depending on moisture supply.

The chemical 2,4-D will not only kill broad-leaved weeds and reduce grass seed germination but will suppress runner production, which is usually undesirable during the second summer.

Where injury to other crops is a possibility, sesone, Eptam, Randox, Trietazine, or neburon may be used instead of 2,4-D.

Herbicides can stop most of the weeds in the strawberry field if used at the proper time and at the recommended rate.—D. D. Hemphill, University of Missouri, Columbia.

Good Crop in Mexico

MEXICO will produce about 11,000 tons of strawberries from 6900 acres planted to that crop this year, according to preliminary estimates. About 9000 tons of the 1959 crop is expected to be available for export as frozen strawberries. The U.S. imported 7000 tons of frozen and 1½ tons of fresh strawberries from Mexico in 1958, reports Foreign Agricultural Service.



EARLIMORE STRAWBERRY

The Earlmore strawberry, developed at University of Minnesota Agricultural Experiment Station, is a June bearing variety. The plants are hardy and exceptionally free from foliage diseases. Greatest promise of this primarily dessert berry appears to be for moderately distant markets or for production on a pick-yourself basis. Plants are available from nurseries this spring.—A. H. Wilcox, U. of Minn., St. Paul.

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tion. Used regularly through the season, Glyodin suppresses mites so well it often saves the cost of special mite sprays.

Yes, easy-mixing liquid Glyodin fungicide stays and pays in cover sprays. No other fungicide offers you its combination of economy plus dependable protection that produces more fine fruit. Order enough CRAG Glyodin now for your entire cover spray program!

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Stone Fruits

Cherry Pollen Carries Virus

NECROTIC ring spot virus of sour cherries may be transmitted through pollen, report Cornell University scientists at New York State Experiment Station, Geneva.

The possibility of pollen transmission of this virus complicates the control program, since seeds from which rootstocks might be grown may carry the infection from the pollen parent, even though the fruit is produced on a virus-free tree.

Pollen transmission of this virus may offer a plausible explanation for the sudden rapid spread of the disease in apparently virus-free orchards five to eight years after planting, because it is during this period that heavy bloom and fruit set begin.

Peach Council Meets

HOW to control the quality of peaches shipped to market and how to increase peach consumption were important topics of discussion at the 18th annual meeting of the National Peach Council. Peach growers from 20 states attended the meeting, which was held recently in Grand

Junction, Colo., in conjunction with the annual convention of Western Colorado Horticultural Society.

Robert Rice, council president and grower in Grand Junction, Colo., told how Colorado growers use a state marketing order. "It is through marketing orders that the needs and goals of the peach grower can be achieved by allowing growers to control the quality of fruit harvested," he said.

The marketing order provides for a minimum size restriction and a minimum grade restriction. It also provides a method for collection of funds for promotion. In 1958, \$26,000 was collected for promotion in Mesa County where the bulk of peaches are grown in Colorado.

R. Samuel Dillon, of Hancock, Md., told growers that the council is exploring all avenues of promotion, including the possibility of important tie-in campaigns.

The conventioners also heard a panel discussion on fresh peach marketing moderated by Paul W. Swisher, Colorado commissioner of agriculture, and including Guy S. Bear, produce department manager,

Safeway Stores; H. I. Deeter, Deeter & Son Brokerage Co.; Dr. James B. Mowry, superintendent, Illinois Horticultural Experiment Station; and Ray Fleming, Richter & Cochrane, Mt. Gilead, N. C.

No "guesstimate" was made of this year's peach crop. Instead, the board of directors voted to drop the annual crop estimate and substitute state reports on bud kill and condition, tree planting trends, and production outlook.

Reports made at the time of the meeting showed that the southeastern states have had no winter injury. California has not had enough cold and a delayed, spotty bloom is expected. Midwest states report considerable bud kill from the unseasonably cold winter. Eastern states report no particular damage.

The proposed revisions in U. S. grade standards for peaches received close scrutiny. After much discussion, it was evident that all states were not in favor of the changes. A grades committee was appointed to work with USDA to iron out difficulties and make recommendations for the next annual meeting.

New officers of the council are R. Samuel Dillon, Jr., Hancock, Md., president; A. E. Bassham, Wynne, Ark., first vice-president; Carleton Heritage, Richwood, N. J., second

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vice-president; and Harold J. Hartley, Carbondale, Ill., secretary-treasurer.

The 1960 annual convention of the council has been tentatively scheduled for Washington, D. C.

New officers of Western Colorado Horticultural Society are: Dick Elliot, Glenwood Springs, president; Gordon Wild, Palisade, first vice-president; William M. Brown, Olathe, second vice-president; and Raleigh Flanders, Grand Junction, secretary-treasurer.

At the annual banquet Miss Celeste Brown, of Palisade, Colo., was crowned Miss National Peach Queen for 1959. Miss Brown was selected as the Colorado Peach Queen last fall and will serve as National Peach Queen until the next convention.

No Frosted Peaches?

WHOMO knows when a big spring freeze will hit the South again and damage the early peach blossoms?

Mindful of the great losses experienced in 1955, researchers at Sandhill Experiment Station, Columbia, S. C., and at North Louisiana Experiment Station, Calhoun, are continuing their efforts in the study of irrigation as a means of protecting peach trees against frost damage.

Success of the method is dependent upon the physical property of water which when one gallon freezes gives off enough heat to raise the temperature of one gallon of water 17° F. Or, some experiments have shown that when 1000 gallons of water turn to ice in an orchard, as much heat is given off as could be obtained if 800 gallons of boiling water were brought into the orchard and allowed to cool to the freezing point, 32° F.

At the 25-acre experimental peach orchard of the Sandhill station, standard irrigation lines with 8 foot risers have been installed every 80 feet and are connected to a 1000-gallon-a-minute pump. W. H. Rhodes, Sandhill station superintendent, says that distribution of a quarter of an inch of water per hour should be sufficient for all but the most severe freezes. A normal irrigation system which gives about 1 inch every one and one-half hours could be adjusted to deliver the amount of water required for this particular operation.

At the Louisiana station, 17 varieties of peaches were subjected to the irrigation experiment. All varieties did not survive to the same degree. Fireglow showed the best survival, 100% live fruit, and Blazing Glow with a 50% survival suffered the greatest damage. However, non-irri-

gated trees of Fireglow had only 24% live fruit and Blazing Glow, 8%.

Temperature rises as great as 6 degrees were noted in the irrigated orchards. According to John C. Taylor, horticulturist at the Louisiana station, varieties which had a showy blossom had less dead blossoms than ones having a small blossom. Also, within a given tree where the water did not reach to the top and the blossoms were not covered with ice, there was a much larger percentage of kill than in the lower portion of the tree where the blossoms were covered. This was very noticeable until the fruit was thinned.

There are some dangers to this system of frost prevention. Water gives off heat when it changes to ice, but heat is absorbed when the ice turns back to water. If the heat is not available from other water, the ice will absorb it from the unfrozen blossoms. Therefore, the spraying must continue until all the ice melts from the trees.

Then, if sprinkler irrigation is used in high winds, the temperature of the orchard may actually be lowered. This is probably due to the creation of a cooling condition by rapid evaporation.

If the system must be operated for a long time, excessive icing might



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Cromer Bros. grow cotton on 3500-acre farm near Osceola, Ark., report B.F. Goodrich Special Service tires pull better, stay clean, are easy to maintain.



Orville Martin, Hagerstown, Md., likes the longer-wearing Power-Grip tread that stays clean, praises the service he gets from his B.F. Goodrich dealer.



Roy Poe, Polled Hereford breeder, of Thorndale, Tex., says: "B.F. Goodrich Power-Grip tires do the job, whether the field is deep sand or hard clay."



Paul Abbott, Lansing, Mich., raises cattle and small grain crops, says, "I like the traction and self-cleaning principle of Power-Grip tires."

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SPM
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Most fruit trees respond to magnesium sulphate applications

Magnesium sulphate has been applied to citrus groves for many years because of the great benefits in increased yields of better quality fruit and added profits that come from its use. However, it is in comparatively recent times — actually only during the last few years — that the equal importance of water-soluble magnesium (and preferably the sulphate form) has been recognized for such orchards as apples, pears, peaches and cherries. Perhaps this belated recognition should not be surprising since the general recommendation that fruit trees need a "complete" fertilizer is also fairly recent. Fifteen years ago, it was common to apply only nitrogen to most deciduous fruit trees.

Later, when it became known and accepted that "red apples require balanced nutrition," the importance of potash for apples and other tree fruits was recognized. Nevertheless, it has remained for the studies of recent years at North Carolina, Georgia, Arkansas, South Carolina, New York and Michigan — on cherries, peaches and apples — to show that there is an important and positive nutritional interrelationship between potassium and magnesium. This relationship has been seldom understood or appreciated by the average good fruit grower. As a result, he probably has bought fertilizer without the added magnesium and thus failed to get maximum returns from his basic fertilizer investment.

As the use of complete (N-P-K) fertilizers for orchards has increased and larger quantities of potash have been applied, the requirements of apple, peach, pear and cherry orchards for magnesium has increased proportionately. But, applications of these complete (N-P-K) fertilizers and/or potash to orchards often have failed to produce the maximum increased yields because there was not an adequate supply of available magnesium. Therefore, magnesium for orchards is now assuming the status of a major fertilizer element, and it should be accorded that consideration in the

manufacture of fertilizers intended for use on deciduous fruit trees, especially commercial orchards.

Now, more and more fruit growers are beginning to recognize the special value of using complete fertilizers which include water-soluble magnesium so that the potassium and magnesium are supplied in a satisfactory ratio for their fruit trees.

Small fruits need sulphate of potash

Fertilizer applications of sulphate of potash, rather than the chloride form of potash, are recommended for small fruits by several states.

Blueberries, gooseberries and currants are among the small fruits known to be sensitive to chlorides found in some forms of potash.

Established blueberry fields on organic soils in Michigan need a 1-2-3 fertilizer mixture. A 1-1-1 mixture is preferred for mineral soils. Two applications of equal amounts of a complete fertilizer mixture containing sulphate of potash are recommended. One should be made early in the spring and the other in the early part of June.

For Indiana blueberry fields, Purdue University recommends sulphate of potash as the exclusive



source of potassium in complete fertilizers.

Annual spring application of a 5-10-15 fertilizer mixture for mineral soils and a 5-10-15 mixture for organic or muck soils are recommended by Purdue. Applications should be at a rate of 2 ounces per plant the second year, with increases of 1 ounce per plant per year, up to 7 ounces.

Other states are recommending the sulphate form of potash for grapes, many small fruits and some tree fruits. Although the sulphate form has always been recognized as a superior source of potash it was only recently that improved fruit yields and quality with sulphate have justified states recommending it.

What is Sul-Po-Mag?

SPM or Sul-Po-Mag is a unique natural crystal combination of potassium sulphate and magnesium sulphate . . . double sulphate of potash magnesia. As an ingredient in mixed fertilizers or as a fertilizer material for direct application, it supplies a readily available supply of magnesium, sulphate of potash, and sulphur. All three nutrients are vital for improved fruit quality and yields.



S·P·M fertilizers . . . boost fruit quality and yields

Magnesium deficiency can cripple your fruit yields for years and never give you a hint losses are there.

Reason: magnesium-hungry soil doesn't signal shortage until you've already paid a stiff penalty in reduced quality and lowered production. Growers have counted losses in the thousands of dollars before the tell-tale leaf yellowing appears along the mid-rib of leaves.

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Sul-Po-Mag supplies the vital sulphur plants need. In or near industrial areas, rainfall may supply some sulphur but not in amounts adequate to fill plant requirements. SPM — Sul-Po-Mag — provides magnesium and sulphur in a form plants can use.

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cause limbs to break. One answer to this would be the use of a mist system distributing only a small amount of water.

Ohio Tests NPA

COMMONLY known as NPA, naphthalphthalamic acid has been tested as a peach thinning spray and gave good results in peach thinning at Ohio Agricultural Experiment Station.

The compound causes fruits to drop prematurely, allowing a limited number of peaches to ripen (see page 47, March, 1959, AMERICAN FRUIT GROWER.) The product used in the Ohio work was produced by Chemley Products Company and has the trade name, Nip-A-Thin.

Prune Day at Davis

ABOUT 550 men and women traveled to the University of California at Davis recently for the 1959 Prune Day.

The all-day program included talks, exhibits, and demonstrations of university research on disease control, cultural practices, and mechanical aids.

A detailed report on the results of a "small-prune" study in California's Santa Clara Valley was provided by Leon Tichinin and John J. Smith, of University of California Agricultural Extension Service.

Prune orchards there have suffered in recent years from small fruit and tree die-back. Tichinin and Smith said that one of the major troubles unearthed thus far in the problem orchards is dead tree roots. In test after test the researchers found live roots down to a depth of 4 to 6 feet, but dead or dying roots beyond that depth.

In these orchards growers apparently had not irrigated in the fall preceding the area's dry winters. Both Smith and Tichinin emphasized the need of careful irrigation. They pointed out that the clay-loam soils of the area could hold only a 45-day supply of water. Cultural practices that interfere with irrigation should be circumvented, they said.

On pollination problems, a university pomologist advised that growers "watch the bees." W. H. Griggs, of the department of pomology at Davis, said the insects are a good indicator of general pollination conditions. If the bees are active, conditions are probably favorable for all the processes of pollination.

Pomological studies on the effects of temperature, wind, rain, and humidity, Griggs said, showed that the following factors could reduce either pollination or fruit set: consistent temperatures below 60° during the

pollination period, extremely high or low humidity, and heavy, continuing winds or rain.

Dr. Harley English, plant pathologist at Davis, said the university had launched an intensive program to trace the cause and control of bacterial canker in prunes.

Experiments up to now have shown that the canker can be appreciably reduced, sometimes as much as 40% to 50%, by using prune on peach roots. Pre-plant fumigation of the soil has shown promising results in other stone fruit crops, and will be tested for use in prunes.

Other partial controls that show some promise are fall applications of Bordeaux mixture as a bactericide, and spraying during dry periods with Endothal defoliant to allow leaf scars to heal before the canker organisms can invade. Leaf scars are not proven points of entry for the organism in California stone fruit trees, he said. In other countries, however, researchers have consistently introduced the organism through leaf scar in cherry.

Plant pathologist Joseph Ogawa said more field information is needed before scientists can evolve a control for brown rot in prunes. Recent infections of the disease have been so light that no significant results on controls could be obtained. He recommended that growers spray with sodium-pentachlorophenoxyde during the dormant stage and follow with a protectant fungicide during the blossom stage, to control twig and blossom blight.—Ralph D. Smith, University of California, Davis.

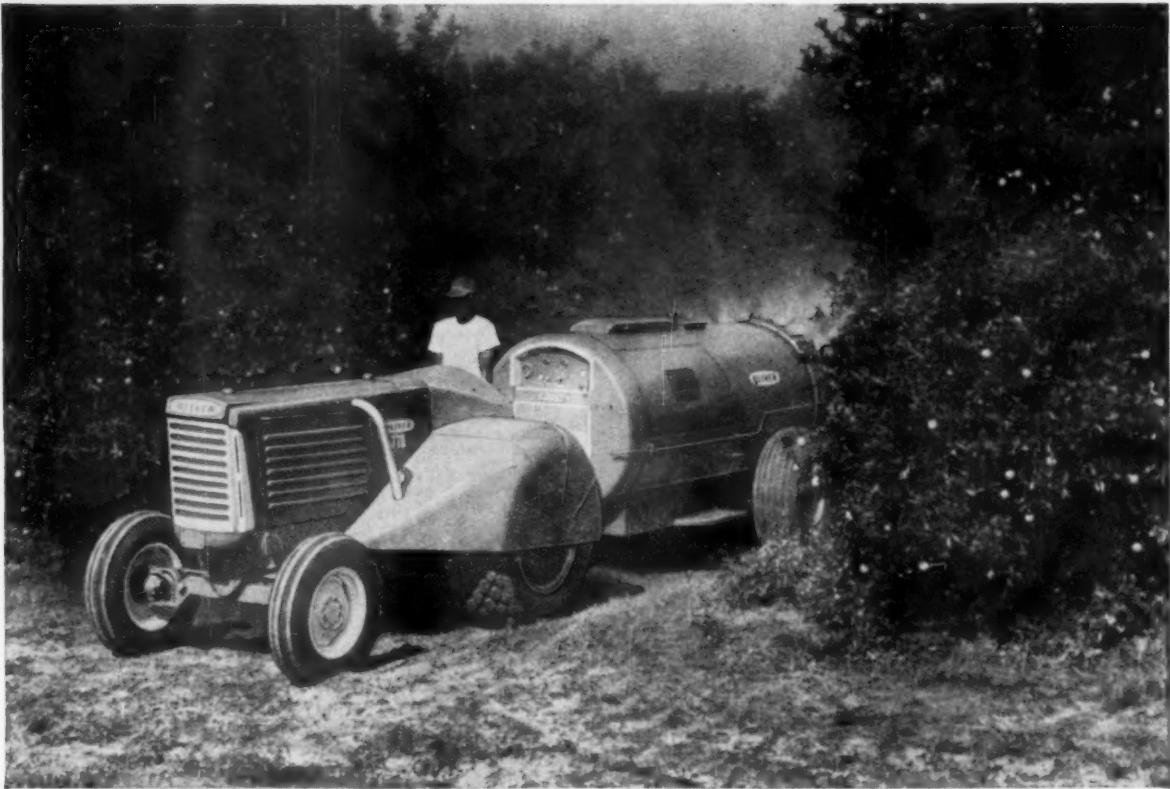
DR. MAGNESS RETIRES

AFTER more than 40 years of service with USDA, Dr. John R. Magness has retired as chief of Fruit and Nut Crops Research Branch. He will continue to serve USDA as a collaborator with Crop Research Division. He also will take over the editorship for a three-year term of *Proceedings of the American Society for Horticultural Science* on July 1, 1959.



Dr. Magness is internationally known as a horticultural authority, particularly in the fields of fruit and nut crops. He has demonstrated great ability in recognizing important problems confronting the horticultural industries and in lending all possible guidance to their solution.

Friends and associates honored Dr. Magness at a recent reception at the Plant Industry Station auditorium in Beltsville, Md.



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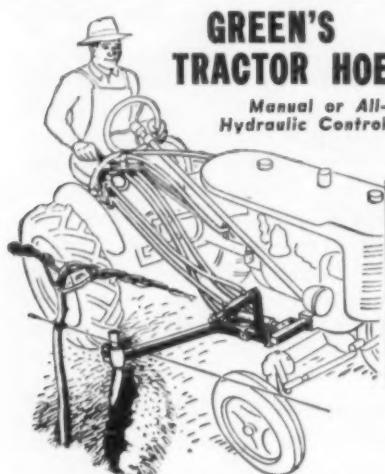


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Apples

Codling Moth Resistance to DDT

WHEN DDT was accepted as a control for codling moth in 1945, it was acclaimed the "wonder" insecticide of the century.

Rumors that codling moth control with DDT was not always satisfactory started in 1952. In 1953 laboratory investigations were started to find the answer.

Three midwestern strains of larvae were tested in 1953. Their progeny were exposed to deposits on apples sprayed with $\frac{1}{4}$ pound of 50% DDT wettable powder in 100 gallons of water. The deposits averaged 3.2 micrograms per square centimeter immediately after application and 2.8 micrograms a week later. These amounts are considerably below the 7.5 micrograms considered necessary for good codling moth control under midwestern conditions.

All strains were readily killed by the fresh deposits. However, there appeared to be a real difference in the vigor of the strains as measured by their ability to enter unsprayed apples.

Firm evidence that certain strains of codling moth larvae were resistant to DDT was secured in tests of seven strains in 1954. The results showed that a strain originating near Gleed, Wash., was the most successful in entering the sprayed fruit, particularly when 1 pound or less of the wettable powder was used.

Tests made in 1955 again showed that the Gleed strain was more resistant to DDT than seven of the strains with which it was compared and that another strain, one originating near Hamilton, Ohio, was even more resistant.

Laboratory tests from 1956 through 1958 have further confirmed the resistance to DDT of certain strains of codling moth larvae.

In one orchard in southern Indiana in 1943, the substitution of DDT for lead arsenate following the sixth cover spray completely stopped entries, and in 1950 worm holes averaged but 0.3 per 100 apples after seven applications. In 1954, however, they averaged 71.1 after nine applications.

Other instances of resistance of codling moths to DDT have been reported from California, New York, New Jersey, Ohio, and West Virginia. Resistance also has developed in Australia, and recent correspondence from Canadian entomologists indi-

cates that DDT is no longer always effective in Ontario.

Even though DDT has not always given satisfactory control, there are still plenty of orchards where it is still highly effective. Other factors, such as favorable weather conditions for codling moth development and proper coverage, have been as responsible for poor control as resistance to DDT. For these reasons it should not be implied that the use of DDT should be abandoned for codling moth control.

Fortunately, many new chemicals have been evaluated for codling moth control since DDT was introduced. At least six have been approved for use on apples.—D. W. Hamilton, Entomology Research Div., ARS, USDA, Vincennes, Ind.

York Spot Controlled!

YORK SPOT or bitter pit in the York Imperial apple is related to boron nutrition of the tree.

After a two-year study at Maryland Agricultural Experiment Station, researchers D. B. Dunlap and A. H. Thompson have broken through the problem of York Spot. While previous research practically everywhere had turned up negative results from boron applications to the soil, these workers obtained effective control by spraying Solubor on the trees. Solubor is a very soluble boron preparation containing 20.5% actual boron.

An outstanding fact was that sprays of Solubor had to be applied during the blossoming period for maximum effectiveness. Application before bloom or after bloom for the balance of the season failed to control York Spot.

Bloom sprays of Solubor showed several interesting and unexpected results. Internal cork, long known to be due to a boron deficiency, was directly reduced by boron sprays during bloom, and was virtually unaffected by sprays applied at any other time during the season from dormancy to harvest. The bloom sprays also effectively controlled skin cracking of the York.

Good fruit finish and excellent red color were found on fruit sprayed with Solubor during bloom in contrast to practically no color or very poor color and finish on unsprayed checks. Poor results were obtained also in trees sprayed during the growing season after bloom.

Moisture did not appear to be a determining factor as the resulting

color and finish were the same in 1957, a very dry year, and 1958, a rather wet year.

Storage studies are as yet incomplete. Not enough bitter pit has developed in storage samples to determine the effect of boron sprays. However, bloom sprays of Solubor resulted in significant control of internal cork which developed in storage both years. When storage studies are completed, results will be published as bulletin A-102 of Maryland Agricultural Experiment Station, College Park.

For control of York Spot in 1959, Dunlap and Thompson recommend two sprays of Solubor, each at the rate of 1 pound per 100 gallons. The first spray should be applied within four days after full bloom and the second application should be made with the regular petal-fall spray.—A. F. Vierheller, University of Maryland, College Park.

New Glyodin Spray

THE new fungicide, Glyoxide, a dry wettable formulation of glyodin, was reported as a product of Union Carbide. It is a product of Corona Chemical Division of Pittsburgh Plate Glass Company. The active ingredient is supplied by Union Carbide. The fungicidal properties of Glyoxide are the same as the well known liquid formulation, Crag.

Good Results with Guthion

THE weather and an adequate spray program are probably two of the most important factors that determine whether a crop will be a good one or a bad one.

"We even try to outguess the weatherman for our day-to-day chores," reports Harold M. Steiner, orchard manager for M. E. Knouse, of Peach Glen, Pa., "but it isn't guesswork when we consider known pests and plan our spray program for economy and results."

Steiner, who has been in his present position for 13 years and also serves as a consultant to the owners of two other orchards, was previously the entomologist in charge of the Arendtsville Fruit Research Laboratory.

"Last year we experimented with Guthion (Chemagro Corp.) on 2½-acre plots in each of three orchards," reports Steiner. "We started our Guthion spray schedule at petal fall and used seven cover sprays. We found the results to be exceptionally gratifying, having gained excellent control of insects, including red banded leaf roller, codling moth, leaf miners, European red mite, two-spotted mite, webworms, plum cur-

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- A world-wide service organization . . . more than 2,000 Authorized Wisconsin Engine Service Stations carry stocks of factory-recommended parts for ALL Wisconsin Engine models.

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AMERICAN FRUIT GROWER

Willoughby, Ohio

Yes—I agree it's nice to do "good turns" to friends. So please mail a free copy of AMERICAN FRUIT GROWER with my compliments to the persons listed below.

If possible send the April, 1959 issue

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culio, and the green, rosy, and wooly aphids.

"All fruit was of good size, color, and finish," said Steiner. The apple varieties included Stayman, Rome Beauty, Red York, York Imperial, Golden Delicious, and Jonathan.

Steiner pointed out that the advantage of using one insecticide that kills all pests (and is also a miticide) offers added insurance against an attack of some unexpected insect which could require a special spray. Guthion, used on the regular spray schedule, thus eliminates the need for "between-cover" sprays, he reports.

out between rows during the first three or four years will be cut back by hand.

As branches begin to interlock in the rows, Friday plans to "flatten" the trees to 4-foot width with a hedging machine similar to those used in some Florida citrus groves. The machine consists of a boom on which is mounted a series of circular saws to clip the sides of the trees as it is driven past. Friday will add a horizontal section at the top of the boom to trim the top of his wall rows at the same time.

For harvesting, Friday intends to use trailers that will carry bulk boxes and support a picking platform about 4 feet high. One worker will pick from the ground and another will cover the upper half of the wall from the platform.

Friday figures that a smaller sprayer can be used, and with more efficiency, on the wall tree with its 4-foot width compared with the 20-foot diameter of the average conventional globe-shaped apple tree. Virtually all the spray material would hit the bearing surface on the wall trees, and, with rows only 18 feet apart, Friday believes he should be able to spray two ways at once.

With his wall trees, Friday also expects higher yields per acre. About seven times more trees per acre are required than for conventional plantings.

Pears

C-A Storage for Anjou

THE marketing of Anjou pears late in the spring may become a reality if experiments prove that controlled atmosphere storage is economical for storing this variety on a commercial scale.

The Anjou, an important winter variety on the West Coast, was developed as a high quality, late season variety to be held in storage for spring demand. Production in recent years, however, has increased to such extent that a good percentage of the Anjous have been held in cold storage past their holding prime.

Experiments conducted at Oregon State College Agricultural Experiment Station, Corvallis, indicate that C-A storage may be the answer to this marketing problem.

Anjou pears in experimental holding rooms at OSC's new biological science building kept until May with no loss in original green color or firmness. The fruit was juicy and flavorful and had a shelf life of about two weeks, according to Dr. Elmer Hansen, OSC horticulturist in charge of the project.



Dave Friday shows 12-foot spacing of tree "walls."

Friday planted his "wall" rows with the trees 12 feet apart and 18 feet between rows. The trees will be allowed to grow just 4 feet thick and about 14 feet high.

Any main limbs that start to grow

MONEY MAKING SPRAY

(Continued from page 9)

NAA. All applications are made with a Speed Sprayer. The engine speed of the sprayer is throttled down about 25% and the nozzle delivery is set for a heavy dilute application. The NAA is usually applied in late petal fall.

When conditions have been favorable for a heavy set, they use 20 ppm of NAA on Wealthy, Baldwin, and Golden Delicious; 15 ppm on Fameuse (Snow), Duchess, Wagner, Grimes, and Hubbardston; and 10 ppm on Delicious. They are hesitant in chemical thinning Jonathan for fear of overthinning. A large Jonathan is not as favorable to them as a medium sized one because of its poor storage properties.

Leon Pierson, of Ionia, likes Amid-Thin. He applies the material at petal fall, making applications in early evening or at night when conditions are favorable for slow drying.

An entirely different method is being used by Harvey Frens, manager of Circle Three Orchards in Fremont. He adds NAA to the fungicide being used for control of scab. When thinning Duchess, Wealthy, and Hubbardston, he makes the first application by adding 20 ppm of NAA to the pesticide mixture being used in the petal fall spray. At first cover, 7 to 10 days later, he checks the tree sprayed with NAA to determine if thinning is sufficient. If not, he will add NAA at 20 ppm to the first cover pesticide mixture and give these same trees a second thinning treatment.

At the time of first cover, he makes his first application on McIntosh, Delicious, and Jonathan, but on these varieties he uses only 10 ppm of NAA. Here again he adds the thinning agent to the pesticide mixture. In 1958, thinning sprays were omitted in Circle Three Orchards for the first time in 11 years because of the excessive injury from cold which occurred just before and after bloom.

When Michigan growers have used Amid-Thin as late as five days after petal fall, the Amid-Thin has caused the apples to hang on the tree and not drop. This has resulted in a crop of small fruit at harvest-time, worthless except for juice apples. Such a happening not only spoils the crop the current year but throws the tree out of bearing the year following the unfavorable thinning treatment.

To keep foliage injury to a minimum, some Michigan growers are using Amid-Thin at petal fall on varieties ripening before McIntosh.

(Continued on page 53)

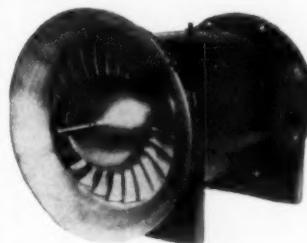
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HOLLYWOOD BEACH, FLORIDA



By HENRY BAILEY STEVENS

It's All in the Location "YOU won't find any Windfalls here," writes neighbor Esther M. Walker, of Island Pond Rd., Atkinson, N. H., "but you could find our family at Walker's Biadamsite. And if our berry plants get to bearing well, you might find some Better Berries Biadamsite."

Center of the Universe SPEAKING of outer space, the editor of the *Lowell (Mich.) Ledger* doesn't hesitate to go to the nth degree in his tribute to the apple:

"An apple is one of the masterpieces of nature, a vast complicated interplay of forces working together to produce it. For years the tree grew from seed to trunk and branches, and then through many months it carried on the secret, subtle chemistry by which it distilled its juicy sweets into its ripened fruit. Bursting into fragrant bloom and bud in May, it then elaborated its sap into the flesh of the apple and flavored it with sugar, spiced it with wine, and wrapped it in its thin but tough integument. The breezes fanned it, the showers baptized it, the sun kissed it, and the frost mellowed it. It distilled its most delicate flavors from the dew and caught its colors from rainbows and sunsets. Earth and sun watched over it and the solar system cradled it in its care. The apple literally became a center of the universe and all the stars revolved around it. After such wide toil and tender care, with so many virtues and graces lavished upon it, no wonder that it comes to us as one of the choicest gifts of nature."

The Bangor Advance, in reprinting the above, comments that Editor Jefferies, the author, for the past 10 years or more "has been totally blind, yet has continued at his daily task of editing one of Michigan's best weekly newspapers."

More Thinning Songs SOMETHING about the thinning operation seems to inspire our poets. Three more have

been heard from since we published

Cecil Fallon's "message from outer space". Theodore P. Trowbridge, of Woodbridge, Conn., suggests that we appreciate most the free gifts of nature when we have to thin out the surplus. He was in the apple-thinning act when one of his granddaughters asked him for his autograph for her graduation. Out of his 80-odd years' experience he rose to the occasion with a verse:

Here's hoping your success will be
Like our big apple tree—
Fragrant bloom, summer shade
And fruit, from which good pies are made.

Practical Helen Davis, of Orchard Hill Fruit Farm, Richmond, Ohio, is a little less sure of nature's munificence:

Our Apple Thinner

He sneaks in at the oddest hours,
And as he works, our fruit devours;
The cheapest labor in the land
Is done by this unique farm hand.

A faster job you'll never see,
He works with such dexterity,
Inside a month he bids adieu,
We're sometimes sorry when he's through;

For often in the lower rows
He takes off every fruit that grows,
While on the hill, by Jackanapes!
They're hanging still as thick as grapes.

He never pays us any heed,
No matter how hard we may plead,
Because of him our labor's lost.
What is his name? It's Old Jack Frost!

Carl R. Gibson, of Evans City, Pa., writes poignantly of a different kind of thinning experience:

The Helping Hand

Winter's gone and Spring has passed,
The peaches hang there thick at last;
And then your son, a ten-year lad,
Says "Let me help you thin 'em, Dad!"
So off you go to start the chore
Your helper's never done before.
You take a tree and show him how
To tighten up the laden bough.
He says "Oh Boy, this looks like fun,
With me to help you'll soon be done".
You say "Let's really lick this crop,
You do the bottom, me the top."
And then you hear from down below:
"You do your own, I'll do my row!"
And then the chatter starts to fly,
It sure can't last for long, I sigh.
But never underestimate a lad
Who's thinning peaches with his dad;
For every tree a challenge brings
Of new decisions, different things.
It gets a little boring when
The same old question comes again:
"Hey, how about this cluster here?"
"Say, don't you think this one's too near?"
And yet you're overjoyed to know
There's good sound help in that next row.
For some day many years from now
When I have left the laden bough,
I'll sit and hear from on the breeze
Another "Hey, Dad, show me, please."

Address your "Windfalls" contributions to Henry Bailey Stevens, AMERICAN FRUIT GROWER, Willoughby, Ohio.

AMERICAN FRUIT GROWER

MONEY MAKING SPRAY

(Continued from page 51)

If too many fruits are developing at the time of first cover, they apply a second thinning application, this time using NAA at the concentration suggested for the variety.

During the past two years in Michigan, air temperatures in many of the apple areas dropped to below freezing (below 32° F.) close to full bloom. Growers were hesitant to use thinning sprays because of the uncertainty of set, even though bloom was heavy. They had learned from experience that NAA when used after the trees were exposed to a freezing temperature close to bloom resulted in heavier thinning than usual.

Some growers used Amid-Thin in petal fall at 50 and 60 ppm. In many cases the thinning was adequate, but in some orchards a second thinning application was necessary on processing apples. For the second application, the growers used NAA. No cases of excessive thinning from the use of Amid-Thin were reported.

The advantage of using Amid-Thin is that it gives the grower a thinning agent to use in years of heavy bloom when weather conditions make it impossible to predict fruit set.

There are several bits of general information regarding the use of NAA and Amid-Thin that are worth repeating:

- Apply NAA under conditions for fast drying when the temperature is between 70° to 75° F. On the other hand, apply Amid-Thin under conditions favorable for slow drying. This is why Amid-Thin is often applied in the evening.

- Weak trees are thinned more easily than vigorous ones.

- Chemical thinning is more easily accomplished when weather conditions during bloom do not favor good pollination or fruit set.

- When weather conditions during the week preceding bloom and/or the period of five to seven days after bloom are cloudy, wet, and humid, thinning is accomplished more easily than when the weather during these periods has been fair and sunny.

- When freezing temperatures (32° F. and lower) occur after pre-pink and before applying the thinning sprays, NAA may cause excessive thinning. Reduce the concentration 2 to 5 ppm below the concentration usually used to avoid overthinning.

Chemical thinning is a money-maker for the Michigan apple grower. It is no longer a completely speculative practice.

THE END.



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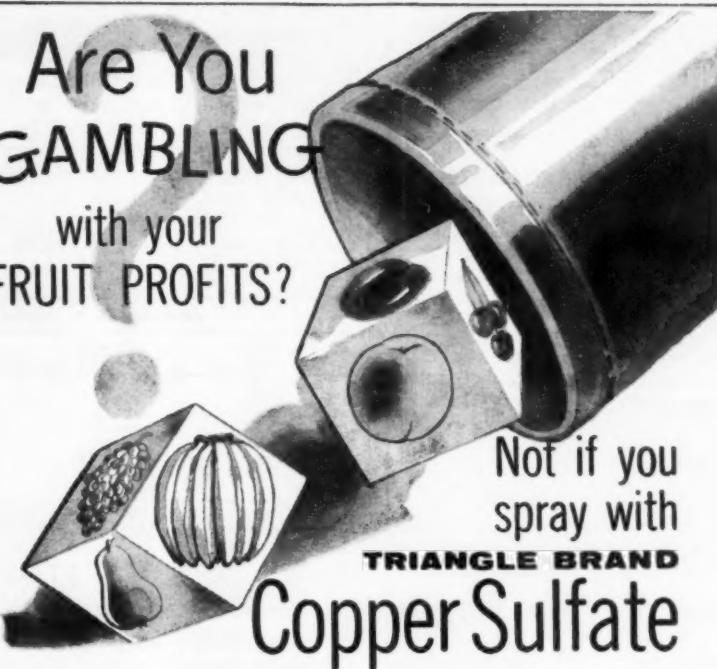
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One person can cultivate, hoe, weed and fertilize a half-acre of strawberries per hour. The operator of the FRIDAY POWER HOE steers with his feet, hoes with his hands and cultivates all in one operation. The weeder tines remove the small weeds and control the runners in a strawberry row. The Power Hoe is built for years of service, often pays for itself in one season by eliminating hand hoeing.

Write for descriptive literature.

Friday Tractor Co.
Hartford, Michigan

NEW RULES ON DEPRECIATION

(Continued from page 13)

of the traditional first year deduction is also entitled to take depreciation to which he would otherwise be entitled except that the amount subject to depreciation must be reduced by the amount of the additional first year deduction before depreciation is calculated.

A comparison of the annual depreciation deductions under the straight line and the 200% declining balance methods, and applying the additional 20% first year deduction is shown in the table. The asset used in the comparison is the highway tractor referred to above.

Fundamentals about the present status of laws and policies to be remembered are 1) depreciation cannot exceed cost less salvage value, and 2) salvage value must first be deducted from cost before computing depreciation except where the declining method is used.

An article by the writer in the February, 1957, issue of AMERICAN FRUIT GROWER suggested that an as-

set might be depreciated under the declining balance method for the early years of the asset's life and then under the straight line method until the entire cost had been recovered. This recommendation is no longer advisable under the present salvage value policy.

It is unfortunate that the depreciation rules are being applied to prior years because it produces a "sleeping dog" situation on almost all business income tax returns. Some of those returns will be examined with resulting assessments. Others, not examined, will be more fortunate.

Knowing all of the available methods, let your selection be the one most advantageous to you according to your circumstances. If you have had a below-average year, it would not be advisable to use one of the accelerated depreciation methods nor to use the optional additional 20% deduction. In a year of high profits these methods will probably be found to be good tax-savers. THE END.

COMPARISON OF ALLOWABLE DEPRECIATION DEDUCTIONS

Depreciation Period	Straight Line (1)	Straight Line (2)*	200% Declining Balance (1)	200% Declining Balance (2)*
First Year	\$ 2000.00	\$ 3666.66	\$ 4333.33	\$ 5666.67
Second Year	2000.00	1666.66	2888.89	2444.44
Third Year	2000.00	1666.67	1925.93	1629.63
Fourth Year	2000.00	1666.67	1283.95	1086.42
Fifth Year	2000.00	1666.67	855.97	724.28
Sixth Year	2000.00	1666.67	570.64	448.56
Total	\$12,000.00	\$12,000.00	\$11,858.71	\$12,000.00

* Includes 20% additional first year deduction.

FLORIDA GOLD

(Continued from page 12)

are eyeing the market and are being encouraged by such natural and economic advantages as Florida's lower growing costs, greater proximity to major markets, and late entry into the field, which permits the establishment of varieties that are tailored to measure for the processor.

What kind of lemon suits the processor best? First of all, it is one that is very sour, for the higher the percentage of acid, the lower the amount of juice needed to make a given volume of concentrate. Second, it is a variety that produces big fruits and many such fruits, thus providing maximum volume of juice on a per tree or per acre basis. Third, it is a variety possessing peel oil of superior quality, for it is lemon oil that gives lemonade its bouquet and taste.

Given such a variety, it must also have desirable horticultural characteristics: its trees should be relatively thornless, for the longer and more numerous the thorns, the higher the picking costs; its trees should bear most of their fruits at one time rather

than over many months, as do many present-day varieties; its fruit should mature at a time when harvesting and packing facilities are not occupied with other citrus crops; and, finally, its trees should lead long, disease-free and productive lives.

At the Citrus Experiment Station, Lake Alfred, a lemon project has been in operation since 1953 to locate, from among trees still to be found in Florida, a variety which incorporates all the qualities of a good processing lemon. These trees are mainly in dooryards, but are also in collections such as the one maintained by USDA at Orlovista and the one at the Citrus Experiment Station, Lake Alfred.

To date, some 200 selections have been brought together and are under test in several commercial plantings where their behavior is being watched under uniform growing conditions. Of these 200 selections, 40 matured their first crops last year.

From this harvest, a team of Citrus Experiment Station processing specialists under the leadership of Dr.

Fred Wenzel has prepared commercial packs of lemonade concentrate and determined the quality of reconstituted lemonade resulting from each of the 40 lines. All selections have been found to make satisfactory lemonades, but certain ones have been superior to others in the amount of juice contained per fruit and in the percentage of acid in the juice.

The 40 selections have also been rated for quality and quantity of peel oil. Kesterson and Hendrickson, working at the by-products end of the Lemon Project, have found that certain selections yield cold-pressed oils that meet all standards of the U. S. Pharmacopoeia. In fact, several of these selections, when properly processed, yield lemon oils superior to any being produced in the United States today.

Dr. William Grierson, station specialist in packing-house operations, has evaluated 29 of these 40 selections for their potentialities as fresh fruit. Should superior fresh-fruit qualities be found among the selections, a profitable sideline might well develop in satisfying local needs for 160,000 boxes of lemons annually. Grierson thinks that several selections show promise provided fruits are harvested for size before they are tree ripe and provided they are cured in accordance with modern practices.

With the data already available, the Florida lemon grower can be helped in making a choice of variety. For the grower already intent on raising lemons, this information, preliminary though it is, can serve, if not to indicate what lemons are best to plant, at least to indicate what varieties should not be planted.

But what about the citrus grower who is not yet committed to lemons, who is still trying to decide whether to plant lemons at all? For him, such matters as varietal recommendations and utilization are secondary; he must first evaluate the various arguments, both pro and con, for even considering lemons.

From the processor's standpoint, lemons provide a blessing, of course, in that they extend the operating season for an additional two to three weeks. Thus, overhead costs can be spread out over a longer portion of the year. The net result is to decrease the unit cost of all products being processed.

At present there are 3000 acres of lemons in Florida. Can this acreage be increased with profit? Horticultural research in itself cannot give the whole answer. Others who should share in the responsibility for making recommendations are the economist, the marketing specialist, the processor, and the by-products manufacturer.

THE END.

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Blossom thinning this simple way not only
reduces the high cost of hand thinning —
it assures a higher quality crop. Trees sprayed
with ELGETOL bear larger, more colorful
fruit — for greater consumer appeal — higher
prices at the market.

ELGETOL thinning is particularly effective on apple
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years. It works equally as well on stone fruits, such as
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Read the advertisements and remember advertisers will be glad to send you catalogs, specifications, and prices. Be sure to say you saw it in AMERICAN FRUIT GROWER.

'Rocket' Loppers

Growers in western New York State and Pennsylvania are using Rocket loppers which they report are the easiest to use and the best constructed. The new pruners, made with tubular steel handles for extra strength, also have rubber cushioned grips to absorb shock. The Rocket loppers are easily adjusted and their cutting edges stay sharper longer. If you're



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- Heavy Duty Pruner
- M/R Board for Boxes

looking for a lightweight, heavy duty professional pruner, write Shel Harper, True Temper Corp., 1623 Euclid Ave., Cleveland 15, Ohio, for details on the Rocket line.

Quick Hitch

Last week I saw a new hitch for implements which impressed me, as it will you. The grower, by means of the new



hitch, can hook implements to his tractor in seconds. Even a youngster can hook up the heaviest tools with ease and safety. What's more, everything is done from the tractor seat. This new hitch takes more of the work out of fruit growing. Called Insta Hitch, it is manufactured by Weather-Seal, Barberton, Ohio. You'll want details; write Guy E. Lane and he will send the facts.

Grower Designed

At the New York State Horticultural Society meeting in Syracuse, I saw the new loader pictured below. The unit is



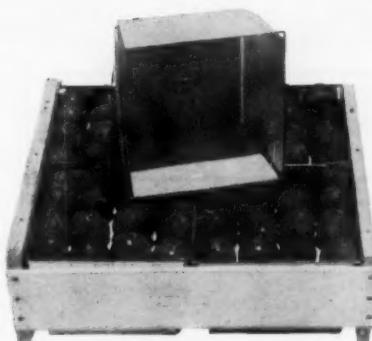
designed to fit small, standard utility tractors and do a big job. The tractor equipped with loader can be maneuvered in small areas. The grower can easily get on and off, and he is safely away from moving parts, with nothing to block his view. Mounting or removing the unit can be done easily in 15 minutes. Why not write New Idea Farm Equipment Co., Dept. 444, Coldwater, Ohio, for details.

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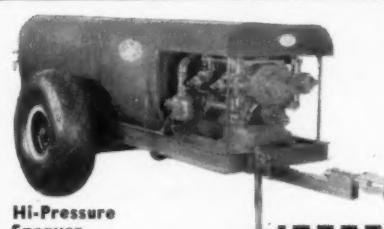
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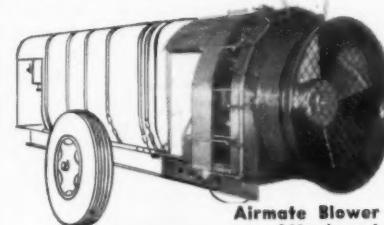
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A state committee named jointly by New York State Horticultural Society, Western New York Apple Growers Association, and the New York & New England Apple Institute has completed work on the proposed order. It has petitioned the Commissioner of Agriculture and Markets, Don Wickham, to conduct such studies and hold such hearings as may be required to determine the need for an interest in such a marketing order and, conduct a referendum vote of all apple growers.

Proposed rates of assessment are 3 cents a bushel on fresh apples, 4 cents a hundred for apples going into processing other than cider and juice, and 2 cents a hundred for apples going into cider, apple juice, and juice products.

Funds collected under the marketing order are grower funds and will go into a special account to be spent only under provisions of the order, with not more than 5% to be used for administrative purposes.

To advise and assist the Commissioner of Agriculture and Markets in his administration of the order, a committee of six growers, a processor, a cold storage operator, and a member to represent the general public is provided. This committee is selected from nominations submitted by growers and their organizations.

The marketing order enabling legislation states that the commissioner *may* appoint an advisory committee. Growers and their organizations are working to get this changed to *shall* appoint an advisory committee and to delegate to it as much power as is legally possible.

The commissioner probably will contract with Western New York Apple Growers Association and New York & New England Apple Institute to carry out programs provided under the order. The division would most likely be in proportion to the amount of money collected in each area.

The proposed apple order is similar to the one for red tart cherries that was put into effect in July of

Marketing

last year. This was the first order under the state enabling legislation enacted in March, 1957.

Under the red tart cherry order, close to \$60,000 was collected last year at an assessment of \$3 a ton. In previous years, under a voluntary program, only about \$40,000 was collected and \$4 a ton was levied against those who participated.

The procedure for the apple order is likely to be the same as that of the tart cherries. After the cherry order was submitted to the commissioner, a hearing was held to determine the need for and the interest in such a marketing order. Then a referendum vote of all tart cherry growers was held. About 80% of those voting favored the order, giving a substantially higher vote than the required two-thirds.

On the apple order it is expected that the commissioner will hold hearings in various parts of the state so that growers will be fully informed as to the order itself and its purpose.

Fred Corey, executive secretary of Western New York Apple Growers Association, has discussed the apple order at each of the county fruit meetings throughout the state.

Horace Putnam, chairman of the Apple Marketing Order Development Committee, states in the 1959 Proceedings of the New York State Horticultural Society:

"Much has been accomplished in the past under the voluntary plan, and many very constructive programs have been carried out. However, I think we will all agree that the amount of money raised under the voluntary program has not been adequate to do the job that is necessary."

New York growers do not believe that more funds for promotion will take care of all the ills of the apple industry, but they are sure that the creation of more markets for apples is essential if we are to market our ever-increasing crop at profitable prices.

New York growers feel that they also need an apple order to reduce the size of the crop of processing apples in large crop years. Such an order would require the elimination of apples below a certain size from processing into applesauce, slices, and baby food. This will be incorporated into a separate order because it would require a different advisory committee from that for promotion and market research.—T. E. LaMont, Sec'y, New York State Horticultural Society, Albion.

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STATE NEWS

(Continued from page 24)

adopted them in 1957, Dr. Batjer said. During the past season, 150,000 bins were used to harvest about 5 million boxes of apples, he pointed out.

MICHIGAN

Cherry Council Officers

BEN DAVIS, of Clyde, Ohio, was elected president of National Cherry Growers Council at the recent annual meeting in Cleveland, Ohio. Harold Buchholz, North East, Pa., was named vice-president, and Ted Stebbins, Grand Rapids, Mich., secretary-treasurer.

The grower-members, who represented state cherry organizations in



Everett Wiles (left) of Bangor, Mich., retiring president of National Cherry Growers Council, congratulates his successor, Ben Davis.

Ohio, Wisconsin, New York, Pennsylvania, and Michigan, discussed the importance of assuming, as growers, more responsibility in the marketing of their product. Developing a stronger merchandising program and supporting these efforts with a stronger promotional program also came up for consideration.

Highlights of the national cherry promotional program were presented by William B. Powell, secretary of National Red Cherry Institute. These included the national cherry pie baking contest, an industry film, *Where Shall We Eat?*, the year-round promotion work, and the development and distribution of recipes emphasizing the use of cherries.

The meeting also featured a report by H. P. Gaston, of Michigan State University, on experimental work being done to develop mechanical methods of harvesting cherries.

Last year's work, he pointed out, proved that a mechanical shaker can separate from 78 to 92% of the cherries from a tree in 10 to 15 seconds. About 8% of the fruit comes off with stems attached, and an average of 3% shows evidence of mechanical injury. The figures indicate that under favorable conditions, cherries can be harvested mechanically for about 1 cent a pound. The work is to be expanded next season, he said.

Another interesting report was given by G. A. Swanson, statistician, Michigan Co-operative Crop Reporting Service, Lansing, on one year's progress in developing an objective method of crop estimating. Two trees in each of 25 cherry orchards in the state were selected in 1958, he said. Spur and fruit counts were made in each tree in mid-June, July 1, and at harvesttime. A technique of crop estimating was developed from the information obtained.—*Ted Stebbins, Sec'y-Treas.*

ILLINOIS

New Apple Variety

BLAZE, a new apple variety, is being recommended for trial planting to extend the fresh market season of Jonathan-type apples in areas with climates similar to that in southern Illinois.

Released by Illinois Agricultural Experiment Station, Urbana, the variety matures three and one-half weeks before Jonathan. Fruit is medium size, round-oblate in vertical section and round in cross section. Skin is three-fourths covered with medium self-red overcolor on a bright yellow ground color. Flesh is yellowish, firm, crisp, fine textured, juicy, mildly sub-acid, and good quality.

Blaze is moderately susceptible to apple scab and cedar apple rust and susceptible to black rot. It has shown moderate resistance to natural infections of apple blotch, powdery mildew, and fireblight.

Information on sources of budwood may be obtained from D. F. Dayton, Horticulture Department, University of Illinois, Urbana, Ill.; and James B. Mowry, Illinois Horticultural Experiment Station, Carbondale, Ill.

APPLE GROUPS FEDERATE

Federation of National Apple Institute and International Apple Association has been formally approved. Both organizations will retain their names and memberships; however activities of the two groups will be co-ordinated by a joint operating committee. The committee also will make a progress report, including one or more plans for forming one apple organization, by June 15, 1959. A final decision on merging will be made no later than February 1, 1960.

WASHINGTON

Apricot Growers Rebel

PETITIONS to end the federal marketing agreement have been signed by approximately 150 apricot growers in the central part of the state. This is said to represent 70% of the production in Yakima, Chelan, Douglas, Grant, and Benton counties.

Inroads of low-quality fruit from areas not covered by the agreement have cut into possible profits of growers who signed the petitions.

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SUBSCRIBE TO GOVERNMENT SURPLUS weekly. Lists all sales. Buy Jeeps, trucks, boats, tents, tires, etc., direct from government. Next 10 issues \$2.00. GOVERNMENT SURPLUS, Paxton, Illinois.

DO YOUR OWN GRAFTING AND BUDGING the easy way. Use Jiffy Bud Sealer. \$1.00 direct from BUD SEALER CO., Box 317, Brooksville, Florida.

OF INTEREST TO WOMEN

LEARN PROFESSIONAL CAKE DECORATING. Details free. DECO-SECRETS, Venice 33, Cal. SEW APRONS AT HOME FOR STORES. NO charge for material to fill orders. In our fourth successful year. Write: ADCO MFG. CO., Bastrop 8, Louisiana.

SEND US RAW WOOL FOR BLANKETS. Details free. WEST TEXAS WOOLEN MILLS, 439 Main, Eldorado, Texas.

ORCHARD FOR SALE

APPLE, PEACH AND CHERRY ORCHARD and farm, 250 acres. 23 acres producing orchard and 18 acres new plant. Fine orchard produces premium fruit. Excellent market. Priced complete with equipment \$65,000.00. Half cash required. For details, write JARVIS REAL ESTATE, Box 100, Durango, Colorado.

ORCHARD RIGHT IN CENTER OF VERMONT village. 10 buildings worth much more than price. Mile Lake Champlain, fishing, boating, duck hunting, etc., 2,000 trees mostly Macs. Will sell part and pay for taking care my part or all. Equipment one-man operation, 3 minutes to P. O., churches, stores. Small down or substantial discount for cash. Might consider share basis for year trial. Age and health requires immediate sale or working agreement. Box 197, AMERICAN FRUIT GROWER, Willoughby, Ohio.

189 ACRE PEACH ORCHARD, APPROXIMATELY 7,000 trees; 5 varieties; offered at $\frac{1}{2}$ actual value, including complete orchard equipment, furnished office, 2 tractors, 1 pickup truck, L. N. COE, Gilmer, Texas.

PLANTS

GROW YOUR OWN SAGE FOR BEST sausage, dressing seasoning. Plants; 3 for \$1.00, 8 for \$2.00 PP. Tomato, pepper, sweet potato, cabbage, herb and wildflower plants. Free list. KELLY PLANTS, B-10-K, Looneyville, West Va.

BURPEES "BIG BOY" AND "BIG EARLY" F-1 hybrid tomato plants. No split order on variety. Live delivery guaranteed. 12-\$1.25, 50-\$3.75. Postpaid. State delivery date. FRANCIS W. PETRIE, 411 South Ravenel St., Columbia, South Carolina.

5 POUNDS SWEET CORN \$1.70, 200 hardy plants \$1.90. BETTER GARDENS, Export, Pa. GIANT MARTHA WASHINGTON ASPARAGUS roots, 2 years old, RUDOLPH SZEWZYK, No. 3, Paw-Paw, Michigan.

AMERICAN FRENCH HYBRID GRAPES for sale. S-7053-S.V. 23-657. Black and S.V. 12-375 gold. One year plants. 40c each. GLEN VIETA, R.R. No. 7, Box 185, Wichita, Kansas.

RABBITS

RAISE ANGORA, NEW ZEALAND RABBITS on \$500 month plan. Plenty markets. Free details. WHITE'S RABBITRY, Delaware, Ohio.

SADDLES

SADDLES, WESTERN & ENGLISH. SEND 10c for 48-page catalogue showing 76 different saddles plus all types of equipment and riding wear. Saddle dealers wanted. H. R. MILLER SADDLE CO., 5904 Prospect, Kansas City, Mo.

WANTED TO BUY

WANTED: PEACH SCIONS AND PITS thought above average winter hardiness. DAVID LAWYER, Plains, Montana.

APPLE GRADER-BRUSHER, SMALL; vertical spray boom; crates. PETRIDES, R. 2, Williamson, Michigan.

WANTED: USED APPLE POLISHER WITH or without grader. Write DON O. BONNELL, La Luz, New Mexico, P. O. Box 19.

PEACH GRADER AND BRUSH FOR SMALL orchard. LANCELOT JACQUES, Smithsburg, Maryland.

APRIL, 1959

FRUIT INDUSTRIES REVEALS CHANGES

MODERN offices are being enjoyed by staff members of Food Industries Research & Engineering, formerly Fruit Industries Research Foundation, Yakima, Wash. The firm is now located at 33 S. Second Ave.

Since its establishment in 1953, the firm has rapidly expanded its engineering services. The amount of work being done now for processing and for industries and businesses associated with the fruit industry, also has become increasingly important.

Headed by Earl W. Carlsen, Food Industries is presently working on the following projects for Washington State Apple Commission:

1) A study, in co-operation with USDA and Washington State Experiment Station, to expand markets for apples by packaging medium- to large-size apples.

2) A study of the effects of the dental health theme for advertising apples.

3) A survey of the possibility of expanding markets for lighter-colored apples through juice outlets.

4) Service work, including meeting industry requests for information, providing educational materials, assisting apple commission staff, and minor projects of statistical and analytical nature.

Food Industries also is engaged in a contract study of pallet boxes for USDA.

CALENDAR OF COMING MEETINGS & EXHIBITS

Apr. 9-11—California Grape and Tree Fruit League, Hotel Mark Hopkins, San Francisco, Calif.—Harold Angier, Gen. Mgr., 717 Market St., San Francisco.

Apr. 23-May 3—44th annual National Orange Show, San Bernardino, Calif.

Apr. 30-May 1—Shenandoah Apple Blossom 32nd Annual Festival, Winchester, Va.—F. L. Layrent, Jr. president, Winchester.

June 14-17—Processed Apple Institute, Inc., Whiteface Inn, Lake Placid, N. Y.

July 7-9—10th Annual Fertilizer Conference of Pacific Northwest, Winthrop Hotel, Tacoma, Wash.

July 20-22—International Apple Association, Inc., 65th annual convention, Olympic Hotel, Seattle, Wash.—Fred W. Burrows, Exec. Vice Pres., 1302 18th St., N. W., Washington, D. C.

Sept. 23-25—Florida Fruit and Vegetable Association meeting, Hotel Fontainebleau, Miami Beach—Joffre C. David, Sec'y-Treas., Orlando.

Oct. 15-24—National Apple Week Association, Inc., fall national apple promotion—National Apple Week Ass'n, Inc., 1302 18th St., N. W., Washington 6, D. C.

Oct. 21-23—National Agricultural Chemicals Association meeting, French Lick Sheraton Hotel, French Lick, Ind.—Les S. Hitchner, Exec. Sec'y, 1145 19th St., N. W., Washington 6, D. C.

Dec. 6-10—National Junior Vegetable Growers Association convention, Roosevelt Hotel, Washington, D. C.—Grant Snyder, Nat'l Chairman, French Hall, U. of Mass., Amherst.

Dec. 7-10—Vegetable Growers Association of America annual convention, Dennis and Shelburne Hotels, Atlantic City, N. J.—Mrs. Mary Hays, Acting Exec. Sec'y, 528 Mills Bldg., 17th St. and Pennsylvania Ave., N. W., Washington 6, D. C.

DWARF APPLE TREES

Available on Malling I, II, VII, IX, Malling Merton 106, 109, 110 and 111.

DWARF PEAR TREES

budded on Old Home

We are one of the country's oldest Nurseries and the largest grower of fruit trees east of the Mississippi River. If you have a special strain or selection, we will bud on contract for you.

Write us for commercial fruit growers price list.

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10 BEARING AGE PLANTS • \$4.50

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We offer the Highly recommended Minnesota Apples, Plums, Cherries, Pears, etc. Over 500 Beacon Apples have been shipped to a large apple grower in N.Y. State alone. Our catalog is free—Send for it today.

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APRICOT • CHERRY • NECTARINE

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Dwarf apple trees on Malling 1, 2, 5, 9 stock. Nut and shade trees. Grape

Vines. Flowering Shrubs. Evergreens. Over 80 years experience growing and selling fruit trees. Write for nursery stock direct to planters. Satisfaction assured—prices reasonable. 60-page illustrated catalog and planting guide sent free—Write

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Box F-49, Princess Anne, Maryland

American Fruit Grower

• Fruit for Health •

RICHARD T. MEISTER, Editor
H. B. TUKEY, Associate Editor

Survival Depends on 'Togetherness'

"TOGETHERNESS" is the new word. Everybody is using it, especially the younger generation. Survival depends upon it, and here is why:

1) A single buyer in a city in Florida is able to buy the citrus requirements for 4251 stores around the country.

2) There are only 2000 surviving "pure" buyers of produce for the country as a whole.

3) Nine per cent of the nation's retail stores handle 68% of the total dollar turnover in produce.

4) Twenty-seven chains and 172 produce buyers purchase 30% of the entire nation's produce.

This is "togetherness" with a

vengeance. This is concentration of buying power for sure.

How about the grower? He has no chance at all unless he, too, practices "togetherness" and becomes big enough as a seller to meet the buyer on even terms. Bargaining associations, marketing agreements, co-operatives, enlarged trade associations—all of these and more are needed.

We cannot hammer away at this too much. Survival of the fruit industry depends on "togetherness" forced upon us either by the slow and relentless grinding of the mills of the gods, or by intelligent growers who will resolve small differences and work together to save their own hides.

Price Squeeze Still On

DR. A. E. Mitchell of Michigan State University has been telling his growers that they are likely to save more money by spending as much time in careful selection of spray materials as they often do in getting every last deduction on their income tax.

The spray and fertilizer companies may not like to hear this kind of talk,

but they are not helped when a grower goes bankrupt or when bills cannot be collected.

Prosperity within the group depends on the prosperity of the group as a whole. We are all in this price squeeze together—growers, dealers, handlers, manufacturers, processors, and even the general public.

Treat Customer as Guest

"TREAT each customer as if he were a guest in your own home" was the advice given to members of Jersey Certified Farm Markets, Inc., by Benton Caldon, director, New Jersey Turnpike Operation, Howard Johnson, Inc., of New Jersey.

The same principles that have contributed to the success of the Howard Johnson chain can be applied to any business that depends upon the motoring trade, including roadside farmers markets, Caldon said.

Maintenance of high quality standards of all products sold; prompt, adequate, and friendly service; and clean, attractive, distinctive buildings are all important ingredients of a successful roadside operation, Caldon stated. Reasonable prices which, while allowing for a profit to the seller, give good value to the customer.

The importance of effective merchandising was also stressed. Two points Caldon discussed specifically were keeping the name of the business before the public through adver-

tising, and placing roadside signs well in advance of the market location.

Buildings, he said, should be planned for distant visibility, and displays should be rotated and constantly kept fresh. Good housekeeping for eye appeal is a "must."



Fruit Talk

Under a new system of "controlled sales," street vendors of fruit in Milan, Italy, may purchase inspected fruit from designated warehouses, the fruit being packed in sealed plastic bags with certificate enclosed.

W. D. Weeks of Massachusetts reports yield of 11 boxes per tree from 15-year-old McIntosh on Malling II, and 12 boxes for trees on Malling VII, which at 20 x 30 (72 trees per acre) is 792 boxes per acre for Malling II and 864 boxes for Malling VII, or 1600 to 1700 boxes per acre for 15 x 20 plantings.

A polyethylene bag placed over and around a garden pot and supported in the pot by bamboo or wire stakes (a properly bent clothes hanger will do) makes an excellent container for germinating seed and for rooting cuttings indoors in a window with not too much sun.

The swelling movement for organization in the fruit industry is heartening and essential to survival—witness interest in a national berry marketing cooperative in California, approval of a cherry marketing agreement by New York Growers, and development of bargaining associations in several states. Even processors are banding together, as in the move in the Middle Atlantic states for a tri-state co-operative marketing group.

"When a product is soundly priced," says Frank Shields, of Yakima, Wash., "further concessions are nothing less than an admission of poor selling practices."

Speaking further of markets, "...when things are made to happen by careful planning they are usually good things, but when things are allowed to happen they are usually bad things..."

The importance of dormant bud damage in fruit plantations in England by birds is shown in a seven-page article by Becker and Gilbert describing the "selective" action of birds for 136 varieties of pears—ranging from "no damage" on Doyenne du Comice to "severe" damage on Williams' Bon Chretien (Bartlett).

From studying the effect of high temperatures on strawberries during harvesting and handling, Maxie, Mitchell, and Greathead, of California, conclude that 2 hours at 85° F. will seriously reduce quality.

Systemic control of cherry leaf spot has been achieved with actidione and several of its derivatives at 20 parts per million—both foliar and soil applications—on potted Montmorency cherry trees in the greenhouse, according to Hamilton of New York State.

Looking over the original cash book for membership payments by members of American Pomological Society in the 1850's one sees such great names as Charles Downing, Patrick Barry, Frederick Law Olmstead, Dr. J. A. Warder, Wm. R. Prince, C. M. Hovey, M. P. Wilder, Dr. W. D. Brinckle, and J. J. Thomas.

—H.B.T.

Coming Next Month

- Fruit Growing in New Zealand
- You and the New Varieties
- Weed Control in Apple Orchards
- The Nectarine's Explosive Rise

AMERICAN FRUIT GROWER

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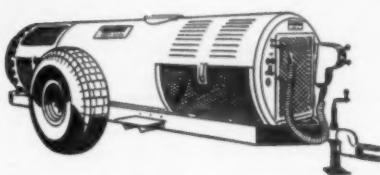
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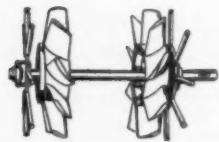
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Hardie DF-40, greatest and most advanced sprayer ever built. Over 80,000 cubic feet of air per minute.



Hardie DF-26D includes the same advanced features as the DF-40, with over 62,500 cubic feet of air per minute.



Hardie patented two-fan assembly std. equipment on all sprayers. Delivers 30% more air volume than conventional axial flow fan.



Aircraft type remote control, simple, heavy duty, controls, throttle and spray delivery on one or both sides.

ANOTHER MAJOR BREAK-THROUGH FROM HARDIE ALWAYS FIRST WITH MORE IMPROVEMENTS TO GIVE YOU BETTER SPRAYER PERFORMANCE AT REDUCED COSTS

You've always wanted it . . . Hardie has perfected it. Now, here it is: a complete air blast line with stainless steel tank interior. (HARDIE-KLAD Stainless actually has a thickness in excess of 4 to 8 times that of metalizing or synthetic enamels.) Built to withstand the ravages of modern spray chemicals. Completely eliminates costly annual tank refinishing. Once you start spraying you'll stop only to fill up, or to quit for the day.

Are you in the market for an air blast sprayer? Well, here are just a few of the main features in Hardie's new line:

- ALL-NEW STAINLESS STEEL HARDIE-KLAD TANKS, Stainless agitator shaft, stainless agitator paddles, stainless drive tube, all stainless interior piping.
- EXCLUSIVE DUO-FAN, two cast aluminum fans, 30% more air volume than the conventional axial flow fan.
- REMOTE CONTROL, Operates sprayer from tractor with aircraft type stainless steel cable controls.
- AUTOMATIC MACHINE-WELDED TANKS, all horizontal seams and beads welded . . . reinforced and electronically bonded for extra strength.
- RUGGED HEAVY-DUTY DRAW BAR AND FRAME CONSTRUCTION
- BIG OVER-SIZED UNIVERSAL JOINTS
- YOU'LL ALWAYS BE AHEAD IF YOU BUY A HARDIE SPRAYER

HARDIE SPRAYERS WORK FINE . . . ALL THE TIME



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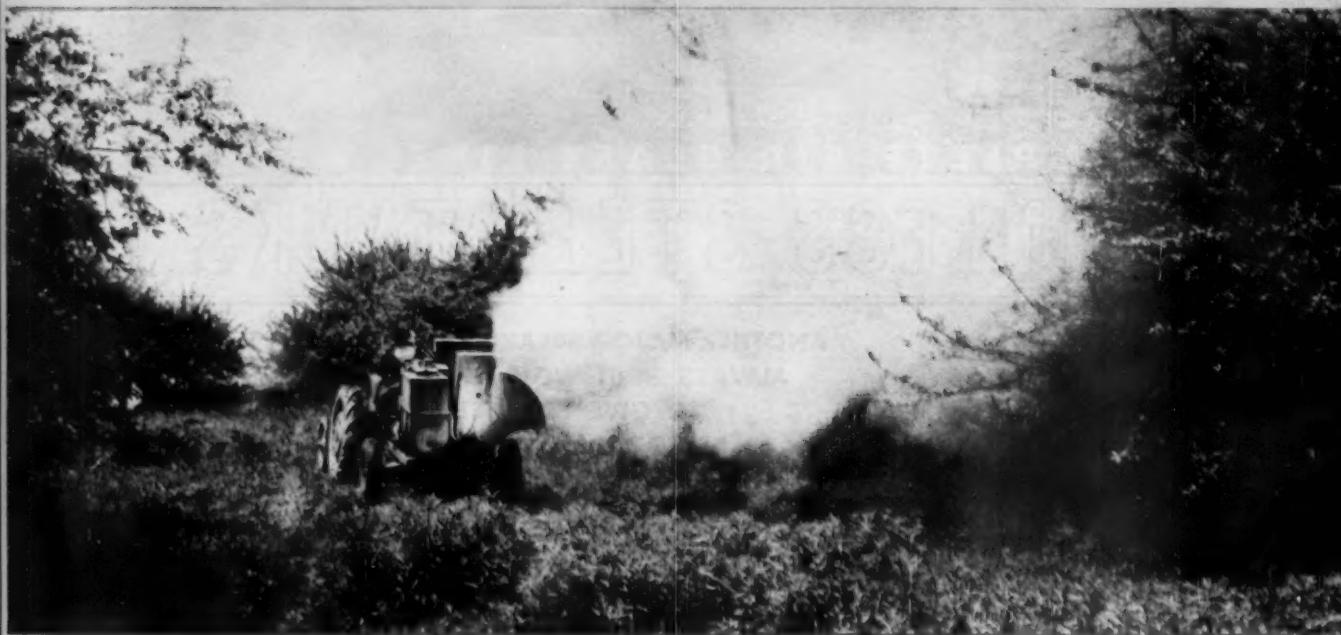
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Agri-mycin® 500*

*A combination Agri-mycin Copper Dust,
more effective, more economical*



Agri-mycin 500, a new formulation of the antibiotics Terramycin®, streptomycin and basic copper sulfate, forms a synergistic action to give increased control against *Erwinia amylovora*, the causative agent of fire blight.

Four years of tests on more than 100 thousand apple, pear and walnut trees have shown that Agri-mycin is the most effective control yet discovered for fire and walnut blight.

Now, it has been combined with basic copper sulfate to give you faster, more effective control of fire blight of pears and apples.

Agri-mycin 500 fights blight within the plant tissues as well as protecting the outside surface as the antibiotics are absorbed directly into the leaves and blossoms of your trees.

This exclusive new patented synergistic formulation of Terramycin, streptomycin and basic copper sulfate is now available to West Coast Growers for the first time.

For growers who prefer not to use a basic copper formulation, Agri-mycin 100 (without copper) is available in both dust and spray powder forms.

Agri-mycin 500 and Agri-mycin 100 in dust and spray powder formulations are now available from these leading West Coast formulators:

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